NEW-YORK

MEDICAL AND PHYSICAL

JOURNAL.

OCTOBER, NOVEMBER, AND DECEMBER, 1828.

Lecture delivered before the County Medical Society of New-York.
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Had medicine a settled and permanent basis, its theory would be ever the same, and its practice would have remained unchangeable from one age to another. Physicians, both ancient and modern—those of all countries and of every school, would agree upon all subjects of importance; but we are far from possessing this advantage in the science with which we are occupied. In fact, it offers us but a series of systems from the time of its origin to the present day. Is there one medical generation which has not had a ruling theory in favour—a system announced and supported under the pretended auspices of truth, and which has nevertheless appeared absurd and pitiful to succeeding generations? The arches of the different schools have re-echoed for three thousand years with the voices of the framers of systems, all of them insisting that they had penetrated into the sanctuary of nature, and were about to proclaim her secrets for the good of humanity. This was done in the earliest epochs of the science, it is done in our days, and the same course will probably be pursued through the succession of ages to come.

Having been called by a vote of this society to present a memoir upon some subject of medical science, it has appeared to me that some interest might be derived from the history of the different systems which have existed in France since the commencement of the present century.

I shall pass rapidly over the fundamental laws of the system of Bichat, which commences a new era in the history of medicine. I shall develope in succession the principles of the doctrine of Broussais, and shall add some reflections on the spirit of Eclectism.

Medicine is coeval with man. The period of its first appearance, and the history of its developement, are lost in the obscurity of time, and amidst the uncertainty of fables. First cultivated in the East it passed into Egypt, thence to Greece, and finally to western Europe. Absurd and mysterious among the Egyptians; empirical and superstitious among the Greeks, it finally acquired the title and dignity of a science under Hippocrates, who, in establishing his doctrine, concealed in its bosom the germ of all the systems, and the most incoherent discrepancies.

Already the dogmatics wish to reach the truth by hypothesis—the empirics desire to banish from practice all reasoning—Asclepiades creates a medicine founded upon the philosophy of corpuscles—Themison reduces all diseases to three forms—the pneumatics attribute life to air wandering in the vessels—Galen restores crisis and coction—the Arabs transfer to medicine the formulas and abstractions of Aristotle—the alchemists burn the books of the ancients, and seek one remedy for every indication.

Van Helmont adds to the doctrine of the archæus his chemical agents—the geometricians seek to demonstrate all the functions of life by algebraical signs—the philosophers see nothing in them but attraction, cohesion, elasticity, force, counterforce, &c.—the mechanists only see levers, points of support, &c. Hoffman, notwithstanding his system of living solids, calls to his assistance a crowd of mechanical ideas—his contemporary Stahl contends that the rational soul of man presides over the preservation of his existence—

Boerhaave unites in his system the humoral pathology of Hippocrates, the atoms of Asclepiades, the solidism of Themison, the mechanism of Bellini, and the chemical theory of Van Helmont, which thus terminates the first series of revolutions which agitated the cradle of medicine.

The name of Boerhaave had ceased to resound in the medical world, and upon the ruins of his system were reared imposing names in different countries of Europe. The time had passed when a great name could subjugate all minds, and enslave to its will the opinions of contemporaries. Every country possessed men of the first merit--every branch of the healing art had its chiefs—Camper and Gaubius in Holland, Stahl in Germany, Fontana and Spallanzani in Italy, Haller and Tissot in Switzerland, Paquier in Spain, Cullen and Hunter in England, and Bordeu, Barthezi, Lorry, and Vicq D'Azir in France, seemed to aspire each to distinct pre-eminence.

Attracted by the reputation of Dessault, Bichat went to Paris to increase the number of his pupils: Dessault dies and Bichat enters the arena. After spending some time among the scattered remains of systems which had crumbled to pieces, to examine the spot where he could best erect the edifice of science—a vast career presented itself before him: a glance at the assemblage of material bodies showed them divided into two great classes. On one side, he saw inorganic bodies subject to constant and immutable laws; on the other, organic or living bodies governed by laws that constantly varied. Leaving to the philosopher the study of inert matter, he assigned to the physiologist the history of living matter, and dedicated his time and exertions to its examination.

Too long subject to the principles of philosophy, physiology had wandered amongst the wastes of systems and hypotheses. Notwithstanding some ingenious ideas of Van Helmont and Stahl, the science had too long received from this slavery the most dangerous influence. Regenerated by the efforts of Bordeu—enlarged by the experiments of Haller—protected by the authority of Bartheze, it still floated unsteadily in the midst of opposite opinions, when Bichat, wresting

it for ever from the physical sciences, fixed it upon an immutable foundation; and then regarding with a fixed eye the object which he sought to obtain, and pointing to his disciples the route which they ought to follow, he died in the midst of the laurels which were awarded to him. The life of Bichat was but a rapid passage—his existence but a flash of lightning; but his name will not the less remain imperishably engraved on the annals of science. Posterity, which has already commenced for him, has judged irrevocably upon his merits. Time has done justice to the light errors which escaped him in his youth, and to the iniquitous judgments pronounced against him. The admiration of France has vindicated his memory from the base disdain of envy; and the light which his works have shed on the science of man, far from being extinguished with him, shines brighter every day.

It is to Bichat that belongs the glory of having traced in medicine that road which alone can lead to truth; it is he who, profiting by the works of many celebrated men, has lessened the incertitude and hesitation which retarded its progress. As if he had been aware of the premature death which awaited him, he did not waste his early years in combatting the errors which darkened his views, or to overthrow the idol which usurped our homages—he pointed out the truth, and innumerable disciples followed in his path; the enthusiasm which he communicated to them still remains, and under banners the most opposite, an unanimous cry is raised to proclaim aloud the fame of Bichat.

The spirit of analysis then reigned in philosophy, and was introduced in medicine; it had already given success to the work of Pinel. Bichat, in applying it to anatomy, made an immortal discovery; in applying it to physiology, he produced a seducing but imperfect system. His predecessors had considered life, the vital forces, and excitability in mass; he on the contrary, turned all his efforts to trace out the presumed cause of the vital phenomena. Guided by this principle, he studied in living bodies the different phenomena

which they presented, to attach to them their different properties.

Perceiving that the animal felt, he recognised a property in it which he called *sensibilty;* he saw that the animal moved by repeated contractions, and he attributed to it a property which he called contractility. These two great phenomena of the animal economy, perception and movement, the two grand properties of sensibility and contractility, absorbed all his mind; with them he explained all the phenomena; he believed he could account for all the movements of life. See with what complacency he analyses them; under how many relations he studies them in order to connect them with all the known physiological facts. The cerebral nerves are the organs of sensibility; they possess sensibility in the highest degree—*animal sensibility.* But the other organs which transmit impressions received are nevertheless not insensible because they reject some substances and receive and appropriate others. They perceive, (says Bichat) but their sensibility is simply organic. The exterior muscles contract and move under the power of the will; they possess contractility in the highest degree—*animal contractility.* The interior muscles evidently contract independently of the will, they have therefore organic contractility. But all the organs are the seat of motions inappreciable, it is true, but real, since they compose and decompose continually. "Well," says Bichat, "I will call it an *insensible organic contractility.*"

These are the terms of his analysis, at the same time insufficient and exaggerated. Insufficient, for all the phenomena of life, are far from being confined to perception and motion.—Exaggerated, for impressions not perceived are not perceptions, and organic sensibility is not sensibility.

Having laid down these fundamental ideas, and proceeding always in the same spirit of analysis, Bichat considered life in general, and formed two grand divisions—the one which he named animal life. because by it the animal is connected with exterior bodies; and the other—organic life, by which he lives within himself. This division of life in general, according to the expression of Bichat himself, into two particu-

lar lives, drew upon his system of physiology, criticisms which should have been chiefly directed to a badly chosen expression. It is true there are not two lives in an animal, but there are two kinds of phenomena quite distinct, which correspond to these terms. Hence we see that this division does not constitute the system of Bichat, but was merely an appendage of it. The true system of this author consists in the admission of the vital properties already mentioned.—We will now see some new proofs in the manner in which he considers diseases.

There are two conditions, says he, to the phenomena of life —the state of health and the state of disease. Hence two distinct sciences—physiology, which treats of the first stage; pathology—which has for its object the second. The history of phenomena, in which the vital forces have their natural types, leads us as a consequence to that of the phenomena, where those forces are altered. It is then to the alteration of the vital forces or properties that he attributes diseases; according to him the vital properties are inseparable from the tissues, and inherent in the organised substance. It is not the alteration of the tissues which constitutes disease; it is the alteration of its powers, without which it could not live—without which it could not be diseased. The living tissues and the vital powers are inseparable in his system, and to say that the power is destroyed, is to say that the tissue is also.

This definition thus explained, it remains to determine in what manner the vital properties can be altered. It is here that Bichat is opposed to Brown. Some authors, says he, see in diseases only strength or weakness, consequently in remedies only debilitants or stimulants. This is true in part, but false when made too general. It is not only by an increase and decrease of action that they are operated on, but they also are changed in their nature. It is necessary, therefore, that the remedies should not only increase or diminish the vital powers, but also restore them to the natural state from which they are perverted.

This theory manifestly excludes the Brunonian dichotomy,

and it consecrates the theory of specific remedies, directed against one modification of vital powers in preference to another.

It is in a no less formal manner that Bichat condemns the exclusive theories of the solidists and humoralists. He could not point out in what consists the vitality of the fluids, but he recognised it as an incontestible fact. He regarded their change as the cause of a great number of diseases, and admits even the existence of virus, which may be introduced into the animal system. Finally, Bichat acknowledged general diseases, such as most of the fevers which attack almost simultaneously all the organs. This discovery of elementary tissues prompts him to locate and circumscribe more and more the seat of the diseases to one tissue, to the exclusion of another—the nervous, muscular, serous, mucous tissues are affected separately, and present each their different pathologic effects—their different symptoms of particular grades. A diseased tissue may influence the neighbouring tissues, which he calls sympathy, but the primitive affection is never spent but upon one. In France these ideas are now familiar ; but when they were first announced, they produced a great sensation. It was in this, in fact, that consisted the originality of Bichat's views on pathology. It was by this that he brought about that revolution of which I propose to develope the results in the doctrine of Broussais.

We could hardly expect that the Parisian school, governed as it was by Bichat's system, a system purely physiological, (for its author hardly had time to point out all its possible applications to pathology) guarded against all systematic influence in the study of diseases by the authority of Pinel, could remain long in a situation which, in opening a free career to their progress, secured it from the rambling of a sectarian spirit. Vitality in physiology; eclectism in medicine, properly so called—such was in France the situation of this science for the first fifteen years of this century.

Broussais enters the theatre, announces himself the disciple of Bichat, declares himself the heir of his glory, the exclusive propagator of his principles : endowed with a discover-

ing mind and a spirit for analysis, he employed by turns experiment and reasoning—observation and analogy. It was not with vain formulas, with charms and panaceas, that he sought to usurp our homage. It was by observation, by the study of the laws of life, that he overturned the edifice of science; but it is, (says he,) to erect it upon a more solid foundation.

Medicine has undergone a revolution in France, through M. Broussais, which is, on some accounts, a happy one; on some others it has been very unfortunate—but quite worthy of attention. This physician seems to me to have been badly judged, not through ignorance, but from a spirit of party.

His partisans considered him as a genius, the final founder of medical science, theoretical and practical; his detractors, as a sectarian in whom pride held the place of genius, and audacity of force; who had acquired partisans by flattering their mediocrity, and by depressing science to their level.

Pinel enjoyed in France an influence which time had already sanctioned, and public teaching was directed in the spirit of his doctrine, which was still a young child of the nineteenth century, and contemporary with the general anatomy. Broussais therefore did not come exactly apropos, but had to seek the elements of his success in himself. It was first necessary to attack suddenly, without groping, without transition; timidity would have injured him, concessions would have paralysed all. No half way measures could be taken, and he must of necessity establish himself by force, and especially avoid borrowing or making concessions to Pinel, whom he supplanted, or to seek arms and support in foreign and ancient doctrines. So as to mark well the extent of his mission, he goes back to all periods of the history of medicine; he more than throws doubt upon Hippocrates, he attacks Galen, Boerhaave, always covered with glory—Cullen and Sauvage will not escape him; but he especially contends with Brown, whose influence was yet felt in therapeutics, and whose grand and profound doctrine had overcome a crowd of subsequent doctrines; arrived at the termination of the last century, he combated Bartheze and the Montpelier school; finally plac-

ing himself in the midst of his contemporaries, he used all his efforts to overthrow the Pinelian school. All this was but the effect of a stroke of his pen.

Broussais found more difficulty in combating the Brunonian doctrine than the others. This doctrine is profoundly philosophical, theoretically speaking. After having reigned over Europe, it still exercised a great influence in therapeutics. Broussais applied much time and pains to this, for his own doctrines offered some certain resemblance to that of the Scot, and it concerned him, therefore, to show what and where they differed upon important points. These are the principal propositions which he asserted and maintained contrary to Brown. 1st. That excitability is not the same in all the organs—it is not in more or in less, in totality, in all the system. 2dly. Diseases are never primitively general. 3dly. Diseases from weakness are not the most numerous. 4thly. The stimulant treatment is seldom indicated. 5thly. The success of the Brunonian practice is illusory, false, or wrongly interpreted. M. Broussais calls the Brunonians incendiaries. However, well instructed men, and good practitioners full of candour and veracity, attest to the good effects of stimulant remedies in many diseases. To these M. Broussais opposes his own observations to the contrary, and the result of his method. How shall we decide this question?

He denies the conclusions from facts badly observed, or seen through a false theory. He is right: but the facts which he invokes himself, who will answer to them? It is this unfortunate versatility of pathological phenomena which throws so many physicians into a discouraging scepticism. Some fly to eclectism, but how maintain it. Eclectism is nonsense in medicine. The word signifies to choose amongst the most reasonable systems, or the most reasonable things in each system, and the best method of practice. How shall the well-advanced practitioner choose, and how answer for the value of his choice? By reasoning? Yes, reason upon this immense quantity of facts of all kinds—read twenty thousand volumes—scan the whole on the rules of criticism, historical and medical, and then indicate *a priori* what is to

be believed and what is to be done, and you will be found the inventor of the most novel and surely the most extravagant system known. Go then to experience. Whose experience? You have but your own, since that of time past and of time present are contradictory. Here is all that can come of eclectism. Here then is the practitioner reduced to his personal experience, and to renew on his part the work of ages, which has taught him nothing. This is not true of all the branches of medicine: the experience of ages has left floating on the ruins of systems, some rules of practice generally admitted by every one.

I ask pardon for this digression, which is not exactly in place, and will now endeavour to lay before you, the fundamental ideas of the medical system of Broussais.

Monsieur Broussais' principles on physiology, pathology, and therapeutics, are laid down in three separate works :— The History of Chronic Phlegmasiæ—The Examination of the Medical Doctrines—and a Treatise on Physiology applied to Pathology.

The history of chronic Phlegmasia is throughout a book of observation, wherein the most correct ideas on pathological phenomena, are combined with imperfect fragments of an ill-founded theory.

His examination of the Medical Doctrines is composed of two very distinct parts. The first is a collection of aphoristical propositions on physiology, pathology, and therapeutics; it is the code of a new medical doctrine. This code is drawn out without either commentaries or discussion; its form is dogmatical, and its language concise and laconic. The second is altogether polemical. The undertaking was bold, and both its conception and execution required uncommon abilities, boldness, ingenuity, firmness of character, perseverance, and immense scientific resources. Broussais possessed them all, and he used them to advantage.

His Treatise on Physiology applied to Pathology, is but an ordinary work ; in this, Monsieur Broussais is neither the judicious observer he appears to be in his first work, nor that expert controversialist that he is in the second. This

being the last work that he has made, he was compelled to mould it upon the assertions, either accurate or contradictory, that had escaped him in his former publications, and when his ideas and principles had not yet been established on solid foundations.

This physiological doctrine then may be considered under three heads: that of physiology, that of pathology, and that of therapeutics. These are the three studies which, distinct in their object, mutually assist and support each other. In all the systems of medicine we see them follow in this order. The theory of health determines the theory of disease, and this the mode of treatment. M. Broussais has also followed this logical march, to form a systematic whole.

Firstly, Life examined in all the tissues which are endowed with it, is not revealed but by one single phenomenon, producer of all the other phenomena, irritability, which is common to all the tissues.

Sensibility is not a vital property, it is but the functional result of irritability; we only perceive because we are irritable, and sensation is only the perception of the exercise of irritability. Irritability is the property which the living tissues have to move themselves, on the contact of some stimulus. It is not made known to us but by that movement, for without that movement we should not know that it existed; the movement of the living tissue when our eyes can see it, is a contraction. Analogy must force us to admit that it is one also in those cases where it is too minute to be visible. Life is in the tissues; it is only revealed by the movements, and the movements are contractions: contractility may serve then to explain all the vital actions.

Secondly, Life is only maintained by excitement: if both the exterior and interior stimulants are wanting for our organs, they cease to live. This excitement begins with the conception of the fœtus and finishes only with death. Each animal tissue requires to be put into action, to receive the preliminary impression of a special stimulus; thus the blood is the most general stimulus of the economy; the brain deprived of its presence is interrupted in its actions. Air is the stimulus of

the lungs, light of the eye, sound of the ear. Many appropriate fluids are carried into the most minute folds of the system to produce continual excitement. From this vast concourse of stimulation results universal reaction of all parts of the economy; this reaction is life (or the exhibition of life.) This reaction in phenomena which results in its mode of exercise, is only contractility brought into play, that is to say, an innumerable multitude of contractions disseminated throughout the whole extent of the living tissues, and repeated each instant.

Thirdly, Life or contractility is not spread equally through the system. Certain tissues—certain organs are endowed with it to a high degree, others to a less; it is distributed to all points of the animal in different proportions. This inequality in the proportions of vitality, produces a crowd of differences in the nature and energy of the phenomena, of which each tissue is the theatre. The action of stimuli is in coincidence with these differences of vitality. The tissues possessed of most life, are also most easy to stimulate, and the stimulation received by them is then transmitted to all the others; in all cases, energetic or obscure, contractility is always identical in its nature, for from its exercise always results a contraction, and several contractions only differ from each other by their extent.

Fourthly, The material phenomena which follow stimulation bearing upon a living tissue, are, contraction of the fibre of this tissue, and the flow of fluids to the point stimulated—strong or weak, applied to an organ very irritable or not, stimulation brings the same organic modification. For example:—A foreign body touches the skin; at the same instant the fibre contracts, and there is an excess of fluid. This assemblage of phenomena constitutes a vital erection; this vital erection is repeated in the nerves, and is reproduced in the brain; hence results a sensation agreeable or painful. The desire to approach or avoid the cause of this sensation manifests itself, a new vital erection takes place in the brain, and gives birth to the will; which returns vital erection to the

voluntary nerves, and these to the muscles, which are moved to obtain the definite result desired. Here are several actions vital and moral: passive impression from contact, sensation, desire, will, muscular motion, all these phenomena are the result of a series of vital erections identical in their nature. In fact they are all reduced to contraction of the fibre and an accumulation of the fluids; the minute modification which gives rise to a pimple on my skin, causes also the birth of ideas in my head, and the state of the brain during profound meditation, is the same as that of the stomach during a laborious digestion.

Fifthly, The organic phenomena of the solids conducive to stimulation, attest there the presence of life. Every where that they show themselves there is life, and every where that they show themselves, they are of the same nature, the only difference arising from more or less.

Sixthly, Stimulation exercised upon one point of the system is soon repeated upon other points through the intervention of the nerves, this is what is called sympathy. Excitement is never uniform in the economy; when it is increased in one organ it is diminished in another; it does not quit one region but to overcharge another region, and does not accumulate in one tissue but to abandon another tissue. A continued communication is required: it is required to maintain the equilibrium of the functions. This is what constitutes the state of health.

All these principles of physiology are immediately applicable to pathology, thus: —

1. Disease results from the irregularity of the functions, and this irregularity applies to the suffering of one or several organs. The functions are deranged because the organs which give rise to them experience some unfortunate modifications in their vitality. Vitality may be augmented or diminished, but cannot be modified in any other manner. Its quantity may vary, but not its quality; when examined in its action in the tissues, it is not revealed to us but by a contraction of the fibre with accumulation of fluids, and so forth. In the

state of health, an exact proportion is established between the stimuli and the tissue excited; the innumerable reactions of which life is composed, are executed in an order admirably balanced; but sometimes this order is broken and this equilibrium destroyed, by various causes. Sometimes the stimuli are too strong, sometimes they are not enough. In these two cases the irritability augments or diminishes, and hence disorder in one or more functions; at other times the excitability is increased, or is weakened, at some point, and then the natural stimulus is uot sufficient, or overpowers it; hence suffering again in the organs and functional derangement.—In this case, contractility always exists; it presents itself always with the same phenomena which follow its exercise, without which death would result; but badly strengthened, or enfeebled, it no longer produces the same results.

2. The pathological state, therefore, is no other than an increase or diminution of the physiological. Take for example the fact given above. The foreign body applied to the skin is a hot fire, the fibrous contraction is very strong, the fluids rush there in abundance, a great heat is manifested; similar phenomena in the nerves and in the brain; this organ scarcely coloured perhaps in the first place, is now gorged with blood to a great extent; the resulting sensation is a severe pain; the will, instead of acting in a regular manner, may be destroyed, or manifest itself in its stead in convulsions or paralysis. The apparent phenomena are the same in either case, on the skin, in the nerves, the brain, in the voluntary muscles—in the first case they are contained within moderate bounds necessary to the natural exercise of the functions; in the other they surpass the bounds, and the functions are deranged. Arrived to this anomalous degree, the excitement is called irritation, the irritation becomes the producing phenomenon of all the other morbid states, as the natural excitement is that of all the physiological operations; the excitement carried to a great height, takes the name of inflammation; normal excitement, irritation, over-irritation, are only the same state in different degrees. We may, to comprehend the subject, suppose a ladder on which each step

will represent a degree of excitement. In a certain series of degrees excitement is in the natural manner, and preserves the name of excitement, which is health; carried to the last furthest degree of this series, excitement takes an unnatural manner, it then is called irritation, which is disease, and all the pathological changes are produced by irritation, or by the deficiency of excitement.

3. In all cases irritation is always identical in its nature; it is, wheresoever may be its seat, or the cause that determines it, or the number of sympathies which it awakens, always characterised by the flow of fluids. Irritation always commences in one single organic system, and then is communicated to another. It is primitively local. The nature of the irritation does not change in its migration from one point to another; it is reduced always to an augmentation of the phenomena which attest the state of life. The exaltation of one or several organs always produces a languor of several others.

4. Irritation may be continued or intermittent.

5. Irritation fixed upon the capillary blood vessels, and accompanied with pain, heat, tumefaction and redness, is called inflammation. If the capillaries open at the beginning of the complaint, and blood escapes, the irritation is no longer called inflammation, but hemorrhage.

Irritation fixed on the lymphatic vessels attracts but the white fluids; there is tumor, but neither redness, nor heat nor pain; this sort of irritation takes the name of subinflammation.

Irritations of the nervous part are called neuroses; they are only characterised by pain, which, however, is sometimes wanting.

6. There are no general diseases, the essential fevers are gastro-enteritis, simple or complicated; that is to say, the simultaneous inflammation of the mucous coat of the stomach and small intestines.

7. There are no specific diseases; all those that have received that name are referred to irritation or debility. Deleterious substances, miasma, virus, with all their modifications,

action the living tissues only in two ways. They either augment or diminish their vitality; the diseases which result from their action are but irritations or sub-irritations.

8. Debility is most often the product of irritation, and sometimes constitutes the disease alone; consecutive debility is not a disease. It is united to an irritation, produced by it —continues and ceases with it. Primitive debility has only a secondary step to perform in the pathological code; it is not very manifest but in scurvy, in several asphyxias, in the termination of abundant hemorrhages, in old age, after long abstinence—but still, in all these cases, it is often accompanied by the irritation of one or several organs.

From this pathological theory result the following principles:—

1. Since there are but two classes of diseases, diseases of irritation and sub-irritation, there are in therapeutics but two indications—to excite the part debilitated, to reduce the part over excited.

Remedies are then divided into two classes, some excite, others depress the vital powers. These are sedatives and stimulants. Sedatives are positive or negative. The positive are those, which, applied to the living tissue, relax the vital phenomena by direct sedative action. They are very few, or perhaps do not exist at all. The negative are those which depress vitality by the subtraction of those stimulants which put it in play and continue it: they are circumscribed to bleeding, the application of cold, and diet.

2. To reduce positively and negatively, is the indication which offers almost in all diseases. The antiphlogistic treatment may be exercised in three ways positively, by the use of sedative agents applied at the irritated point. Negatively by the abstraction of stimulants; finally, by revulsion.

The method by revulsion consists in transporting upon an organ less important, the irritation fixed upon an organ indispensable to life. The revulsion is founded upon this principle of physiology, that vitality is only accumulated at one point to abandon another, and it is necessary that the remedial in-

vitation should be stronger than the morbid irritation, if it is weaker, it submits to the other and augments it. A crisis is but a revulsion produced by nature.

3. The antiphlogistics alone cure all the irritations, whatever may be their cause, their seat, or the modifications which the tissues undergo; whether they are intermittent or continued, acute or chronic. The consideration of a scrofulous, cancerous, dartrous, syphilitic diathesis is a chimera; the irritation is always one. The pretended specific virtue of certain stimulant remedies for irritation, is only an absurd supposition.

4. The stimulant method is only indicated in cases of primitive debility, and those are very rare.

5. Every disease being primitively local, it is necessary to find among the diseased organs which is the organ primitively affected. The treatment must be directed upon this organ: its irritation ceasing, the irritation of the other ceases likewise.

This is an exposition of the fundamental principles of M. Broussais' doctrine. It strikes by a sort of seductive simplicity; reducing all the art of cure to two indications, and offering as a sort of universal remedy, leeches and diet: it puts at ease many young physicians, who find it very commodious to learn their materia medica in a quarter of an hour, and in eight days the science of diagnosis.

It has not, however, been so adopted in all parts, except by some lazy spirits and enthusiasts. It has glided into all views of the art of healing, but with modifications more or less important.

It owes its prodigious success less to the positive knowledge which it has brought into the science of men, than to the happy direction which it has given to pathology and therapeutics: it strongly insists on the necessity of attaching on all occasions, the diseases to the organs; and to refer the symptoms to their true cause. It puts physicians on their guard against the abuse of a medicine too stimulating, and has introduced into the language of the science a precision un-

known until then; and if medicine is studied in France in a manner so philosophical, it is owing to this new doctrine.

That these are great services, cannot be denied; but with the good is found the evil. I am far from believing that the capital propositions of this physiological doctrine are, as said by Broussais, immutable; and it is to be regretted that the intellectual despotism of this innovator, should hold so many youths henceforth incapable of thinking for themselves, and making unbiassedly their experiments. Being so filled with a disastrous conviction, they see nothing any where but irritation and gastritis, and in all cases know nothing but blood-letting and drinking water, indocile besides to the councils of experience, contemners of the elders, and believing in their own infallibility; most of them only doubt the objections that can be opposed to their master.

I will now recount some of the objections to this doctrine which appear to have some foundation.

M. Broussais pretends that all the vital properties imagined by physiologists, are chimeras and that there exists but one, contractility. To this it is answered, that neither direct observation nor legitimate induction, will allow the admission that all the interior movements of the living tissues are merely contractions; that contractility, though very evident in the muscular tissue, is not so at all in the other tissues; and that Haller, in allowing it to that one, has not passed the limits of correct observation, while they are passed in extending it to all others.

This contractility is not sufficient to explain all the modifications of which our organs are susceptible. Most frequently on this supposition they are inexplicable, as for example—the accumulation of fluids at a point irritated; in fact, the irritation is a shortening of the fibre; in the shortening, the particles approach each other—the fluids, instead of accumulating, ought to be expelled.

M. Broussais allows it himself in a contradictory manner in explaining by it, at the same time, the production of a phenomenon and its cessation; thus in hemorrhagy the fluids which the increased contractility had attracted, are repelled by the

application of an astringent, which acts only by increasing the contractility.

In contradiction to himself in this case, he is still more in contradiction to the facts; when he affirms that the parts the most contractile are the most sensible, since it is proved that the nervous substance, the seat and conductor of sensibility, does not contract at all.

In accordance with Brown, M. Broussais affirms that life is only kept up by excitement. This is admitted; but this excitement, is it always and every where identical in its nature? Is it resolved in all cases into an increase of phenomena showing the state of life? Finally, does it only present a difference of degree?

It may be answered, that all agree that excitement takes place only consecutively to a movement and by a movement, and that movements being but movements, cannot be distinguished but by degrees of force; it is no less true, that whether by the nature of their direction, or whether by a specific circumstance of the sensibility, the excitement differs in each organ, not only in quantity but in quality; all external stimuli act in the same manner on the tissues, but consecutively to this impression, each tissue reacts altogether in a particular and special manner. The blood acts mechanically every where in the same manner, upon the brain, upon the heart, upon the liver, upon the salivary glands. However, in consequence of this identical impression, one of these organs produces ideas, another contracts, a third secretes bile, a fourth saliva; these considerations drawn from organic life, apply still better to animal life: If the organic action resulting from all stimulants is the same in all the tissues, why is the functional result so different? And, on the other hand, why do certain stimulants arouse one function instead of another? and why are these last powers less, although they bring into the tissues the same organic modification as the first? For example—why does the light alone produce sight, the vibration of the air hearing, odoriferous bodies smell? Do not the fragrant particles arrive at the same time at

the eye, the ear, and the nose, but the nose alone perceives them?

Passing thence to pathology, we see that the theory of irritation explains very badly the innumerable morbid modifications of the organs, as sustaining its identity in all cases. M. Broussais gives the lie to these facts, which we must see producing different results, according to the organs where it is fixed.

Since he admits the different modes of irritation, he contradicts himself, because irritation in his system is but an exaggeration of these phenomena which attests to the vital state, and in not admitting them, he could not make his doctrine agree with the innumerable instances of cure obtained by remedies essentially irritant; and besides, he could not explain the action truly specific of several remedies. Pathological anatomy does not accord with the theory of gastro-enteritis, as in persons dead from malignant fever, the alimentary canal is found untouched, and clinical observations do not prove at all that the previous symptoms of fevers arise from gastric lesion.

The incontestable success of the tonic treatment proves that all disease is not inflammation.

It is not philosophical in medicine to reject remedies only because we cannot conceive how they act; and this theory, tending to proscribe the use of mercury in syphilis, quinine in fever, cubebs in gonorrhœa, is contradictory to facts the best attested.

The different explanations which he offered on the manner of acting of the different remedies, were insufficient; and as their specific action is more than probable, his theory of the identity of irritation is shaken by it in its foundation.

His depleting method, useful in many cases, is fallacious in a mass of others; and like all exclusive modes of practice, it tends to become in the hands of the uninformed a source of great evil.

Now if we examine the theory of Broussais in its grand divisions, we cannot but see its analogy with that of Brown.

Like him M. Broussais teaches that life is only excited in us through the irritability of living tissues, a property which the Scot designated under the name of excitability, and that it is only kept up by excitement. Like Brown, he only admits two modifications in vitality; its increase or diminution. Like Brown, he divides diseases in two classes—inflammatory diseases (sthenic,) and sub-inflammatory (asthenic.) Like him too, he believed that all the agents applied to the living fibre stimulate it. These are the principal points on which they agree; the following are those in which they differ:

Brown thought that excitement was uniformly spread through the animal economy, that it was one and indivisible; that it could not be increased at one point without being so at all others. M. Broussais, on the contrary, thought that excitement, although identical in its nature, is spread in unequal quantity through the different tissues; that it does not excite more or less, throughout the entire system; but that its augmentation at one point produces a diminution in an other, and vice versa.

The theory of Brown was a conception purely speculative.

The French theory reposed on the distinction of vitality in the tissues consecrated by Bichat.

In pathology the two reformers class their diseases in an inverse order. Brown, blinded by the state of apparent debility which accompanies all severe affections, and depending on the debilitating or exciting nature of causes, concluded that almost all diseases were asthenic; M. Broussais having remarked that debility is only consecutive to a phlogistic state of the internal organs, and that the consideration of the nature of causes is but a chimera, declares that the great majority of diseases must be ascribed to inflammation.

The first regarded almost all diseases as general, since they were referred, according to him, to the augmentation or diminution of an excitability, one and indivisible. The other believed all to be primitively local; and became general only by the laws of sympathy; and still this generalization had an entirely different signification from that of Brown.

In therapeutics there is the same discordance. Brown having always to combat debility, administered always stimulants. M. Broussais seeing everywhere inflammation, only employed depletives. The Scotch reformer believed besides, according to his doctrine of life, that remedies acted always in a general manner to whatever tissue they were applied. The French reformer, that they acted always locally, and that their distant effect is subordinate to the modification which they have first undergone in some organ.

It is not a little singular that, parting from the same principles, the two schools should have arrived at results so dissimilar in the classing of diseases and in practice; it is not less astonishing that they argue equally from clinical experience to justify their theories.

Among those that have opposed M. Broussais, my learned friend Dr. Miquel, of Paris, has rendered a true service to science in proclaiming all that was defective in the new doctrine. His letters to a physician of Provence announce in their author intelligence as extensive as profound—a penetrating mind, often caustic, and solid judgment, and a facility in writing very remarkable.

This doctrine has been judged in France altogether by rendering homage to the great talents of the reformer, and proclaiming what there is of benefit and advantage in it, and protesting strongly against what was heterodox and injurious to the progress of science; and that was the part of eclectism which is but the art of estimating the degree and value of proofs. Eclectism is one of the most happily chosen words that medicine has borrowed from philosophy, because it explains perfectly its object, and to select with discernment after experience and reason, examination and reflection, have pronounced their judgment. This is the philosophy of good minds—of men of free and unprejudiced judgment, who regard all spirit of party, all devotion to systems, as a sort of tyranny.

The systematic proceeds always from doctrines to fact. The eclectic pursues a course directly the reverse; he endeavours to follow the course of the mathematician *certum ab incerto*

inventum ab inveniendo. The systematic hears and adopts; the eclectic reasons and deduces: the former pledges his obedience and his medical faith—the latter never surrenders his reason to any usurper; the one thinks through the medium of another—the other is always the author of his own judgment; the truth is that which I believe, says the theorist—the truth is what is demonstrated, answers the eclectic. The systematic might well exclaim with Baglivi—*vera dico, experta dico, sancteque affirmo.* The eclectic answers—let us see, let us examine, let us wait. In medical science, where the imagination runs so rapidly over the open plain of hypothesis, it is particularly important to apply the principles of Bacon—*humano ingenio, non plumæ addendæ, sed potius plumbum et pondera.* It is not more the part of eclectism to pour libations on the altars of Bacchus than to be enrolled under the standard of leeches.

Such is the power of enlightened eclectism. It is like the art which purifies the metals, though it does not create them. It makes the application of reason, judgment, and experience to modern productions and discoveries. The eclectic physician is not one who plants or sows, but it is he who gathers and he who sifts, and he is thus enabled to distinguish between the positive and the speculative, the tares and the true grain.

That M. Broussais is in France the first physician of our age, is what cannot be denied without ingratitude. But the thunder of his eloquence has never dismayed the eclectics.—In the admission, rejection, or mere discussion without determination of the principles of this professor, they have ever been guided by experience, and have ever rendered him distinguished justice; while their interest for truth has prevented them from going in any case to the extent of resting their faith upon his unassisted affirmation.

To recapitulate. It may be added, that every doctrine, every system, every theory, every method, and every hypothesis is to be adjusted by eclectism, which has indeed for its basis but the wisdom and the profundity of reason. Let the founders of sects and the systematizers declaim, attack, and

recount the success of their doctrines; let their adversaries confound the true, the futile, the false, and the hazardous to proscribe them *en masse*;—the eclectic in his tranquil impartiality, free from bias and the spirit of detraction, will analyse, examine, infer, and determine. His triumph will be inevitable, provided the edifice which he has raised is supported by the triple basis of truth, time, and experience.

ART. II. *Contributions in Medical Jurisprudence and Police, No. 5.* By T. ROMEYN BECK, M. D.

WE have recently received two publications, an account of which may be interesting to some of the readers of this Journal. They treat of subjects which are but seldom discussed in courts of justice, and it may be, that in consequence of their unfrequent occurrence, the minds of medical men are not fully made up concerning them. They are, however, just such subjects as may, at an unexpected moment, be presented to them for deliberation and decision.

The venerable Chaussier (whose death at the age of 83 has been announced during the present year) commences his memoir by remarking, that he has been frequently consulted by tribunals and persons interested in the subject under consideration. The surviving of an infant for a short time after

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* *Memoire Medico-legal sur la Viabilité de L'enfant naissant, presenté a Monseigneur le Garde Des Sceaux, Ministre de la Justice.*—Par M. Chaussier, Chevalier de St. Michel et de la Legion d' Honneur, Professor à la Faculté de Medecine de Paris, Medecin en chef de la Maternité, Membre de l'Institut, de l'Academie de Medecine, &c. Paris, 1826, pp. 40.

Recherches Anatomiques et Physiologiques sur les cas D'Uterus double, et de Superfetation. Par A. L. Cassan, Docteur en Medecine de la Faculté de Paris, Ancien Interne de premiere classe des Hôpitaux et hospices civils de la même ville, &c. Paris 1826, pp. 86.

the death of its father, or its extraction in a living state from the womb of its dead mother, changes in many cases the order of succession, and hence gives rise to legal trials.

The earliest legislation on the subject was by the Emperor Justinian, who in an edict dated in 530, declared, that in order to render an infant capable of succeeding, it was sufficient that it came living into the world, and this, although it did not cry. He adds—"*si vivus, perfecte natus est;*" and further, that it should not have any monstrosity or extraordinary conformation "*monstrum vel prodigium.*" Under these qualifications it should inherit, even if it died in the hands of the midwife.

Our author does not hesitate to declare this law inconsistent and indefinite. By being *perfectly alive*, he observes, is understood, that it has arrived at, or very near its full period—that its organs are sufficiently developed to carry on the functions of independent life, and lastly, that during labour it has encountered no obstacle which may occasion its death during, or immediately succeeding that process. A child thus circumstanced, will immediately give marked signs of life—it moves its limbs, it raises cries which indicate proper respiration, and it does not expire in the hands of the midwife. The objection insinuated, and endeavoured to be provided against in the edict, viz. that it may be dumb, is opposed by the fact founded (says our author) on experience and observation, that such children do cry when perfectly alive.

Another inconsistency is, that a condition is established, without prescribing any marks by which it is to be verified. The child must be perfectly alive, and yet it need raise no cry, and it may even expire instantly in the hands of the midwife.

On applying the above rule practically, its looseness will be manifest. A few fugitive pulsations of the heart or the umbilical cord, or some slight motions of the members of the body, will be sufficient to satisfy its requirements. Now all this may, and sometimes does occur even with abortions at the fourth or fifth month. Dr. Chaussier asserts that he has often seen at the Hospital *De la Maternite*, fœtusses of various

ages, unquestionably dead for one or two hours, in whom by insufflation of air, or by physical or chemical irritants, the motion of the heart, and indeed of the limbs, was renewed for a few minutes.

The next law on this subject was by Dagobert, in France, during the seventh century. In one of his capitularies, he ordains, that in order to acquire civil rights and transmit them, the infant should have lived at least an hour, and should have opened its eyes, and seen the ceiling and four walls of the chamber.

It is evident that by these expressions, singular as they may appear, the legislator intended that the infant should be perfectly formed, enjoy its senses, and be free of disease, so far, at least, as not to destroy it during the first moments of existence.

An ordinance of Louis IX. decreed that the child should not inherit, unless it had cried.

Notwithstanding these laws, our author remarks that decisions have frequently been made in France in direct contravention. The slightest motion has been deemed sufficient.—In some instances the child was declared to have lived, because the pulsation of the umbilical cord was observed; in others, because blood flowed, when the cord was cut. So also, if there were slight attempts at inspiration, or tremors of the limbs. A favourable decree was pronounced in one case, because there had been an evacuation of the meconium. Indeed, in 1780, a court decided an infant *had lived*, which was extracted from the womb of its mother by the Cæsarean operation, and besides was certainly not more than five months advanced, on the sole ground, that it had been seen to open its mouth and to close its fingers when they were extended.

The insufficiency of these proofs is earnestly urged by Chaussier. The pulsation at the umbilical cord, and the spouting of the blood from it when cut, only prove that the blood has preserved its fluidity, and that there is still some action left in the vessels—but they at the same time demonstrate that the infant has not breathed. As to gaping, or

opening of the mouth, or motion of the limbs, these are most commonly spasms, or convulsive movements, the consequences of irritability and the last marks of the extinction of all the vital properties. The pulsation of the heart is equally noticed in the last moments of existence. The evacuation of the meconium should not be deemed a sign of life, since it is sometimes discharged in the womb, and is often caused by a compression of the abdomen. Indeed it is not from a single sign that the presence of life is to be declared, but from several united—such as the high red colour and warmth of the skin—a free and full respiration—sharp and continued crying and motion of the heart and limbs, and these continuing for a longer time than a few minutes.

It should always be remembered that there is a fœtal life as well as an extra-uterine one. The infant in the womb of its mother is subject to many diseases acute as well as chronic, which sometimes cause its death during pregnancy, and at others determine it most generally within twenty or thirty hours after birth.* Monstrosity or malconformations may also destroy the child immediately after birth, although in some cases neither of these are incompatible with prolonged existence.

Again the infant may have arrived to its full period, healthy and well formed, and yet encounter during labour such obstacles as may destroy it in the process or immediately after. Of this nature are compression of the head, pressure on the cord, &c. In general, according to M. Virey, of one thousand infants born, there perish twenty-three before seeing the light.

The French code now in force, declares that the child, in

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* In a note M. Chaussier observes, that he has for many years investigated at the Hospital de la Maternite, the diseases to which the fœtus is subject, and has found them usually to depend on inflammation of some organ. Thus he has seen infants born with peritonitis, gastritis, enteritis, and even ulcerations of the stomach and intestines. Sometimes he has noticed tubercles in the lungs, or collections of pus or serum in various parts; and again, cutaneous affectious, scirrhous organs, or inflammatory congestions.

order to pass property, shall be born *viable, or capable of living* (*sera ne viable*). It is evident, from the observations which we have now stated at length, that more definite proofs are necessary than those formerly insisted on, and the aim of M. Chaussier, after giving his objections to former laws, is to propose more specific regulations on the subject.

He premises these by observing that annuities are declared of no effect, if the individual dies on the day of the contract. (Art. 1974 of the French Code.) So, also, by Art. 1975, the agreement is vacated, if the person at the time labours under a malady of which he dies within twenty days after its date. Similar regulations, according to our author, should be applied to the case before us, being evidently more important, since by it, the rights of succession and of the transmission of property, are deeply affected.

If this should be admitted, he suggests the following articles for enactment :—

1. An infant shall not be considered *viable* (or capable of living) which is born before the three last months of pregnancy, and which dies immediately or within a few hours after birth.

2. Such infants are equally deemed not viable, which although arrived at their full term, are born anacephalous—that is, with a partial or total loss of the cranium and brain, even although they cry—or with any other malconformation, in consequence of which they cannot survive or execute their functions, and which art cannot remedy.

3. An infant shall not be deemed viable, which being attacked with disease in the womb of its mother, shall die within twenty-four hours after birth, and this whatever be the cause.

4. An infant shall not be deemed viable, which from the length or nature of the labour, suffers such injury that death occurs during its progress,—or which is in consequence affected by a determination of blood to the head, or a paralysis of the limbs in such a manner that art cannot relieve it, and dies within a few hours after its birth.

5. Such an infant is declared capable of living whose head

is well conformed, and which thirty-six hours after birth, is presented to the civil officer for inscription in his Registers in a living and vigorous condition.

Such (says our author in concluding his address to the Keeper of the Seals) are the observations and remarks which I beg your Excellency to take under consideration for the public good and the happiness of families.

The same objections that are made by M. Chaussier to the French law, are applicable to our own, which is derived from the English. "The child (says Blackstone) must be born alive. It is not essential that it be heard to cry. Crying indeed is the strongest evidence of its being born alive, but it is not the only evidence." What the remaining requirements are he does not specify, and if we refer to the few English cases that have been decided, we shall find that they are greatly obnoxious to the criticism of Chaussier.

The subject chosen by Dr. Cassan for his inaugural dissertation may be called a *vexed* one in Medical Jurisprudence. His object is to explain *superfœtation on anatomical principles.*

Commencing with an elaborate examination of all the cases of double uterus, that are recorded by writers, he refers to its occurrence in several classes of quadrupeds. Some indeed have the womb so disposed, that it almost appears to be separated into three or four divisions.

The first proposition of our author is that this conformation in the female is far from being so uncommon as is generally supposed. He enumerates, throughout upwards of twenty-five pages, the cases related by authors, from Riolan down to one examined by himself, and of which a beautiful lithographic print is given at the conclusion of the memoir.—These cases, (after excluding all that may be deemed doubtful) amount to *forty-one* in number, and from a comparison of their histories, he concludes—that this conformation, consisting in an incomplete or complete division of the internal cavity of the womb, is sometimes accompanied with a similar configuration of the vagina, though this last is often wanting;

that the appendages of the womb are in these instances never double, as might be conjectured; that two uteri, properly so called, or isolated from each other, have never been observed; that if the partition be complete, the uterus will present two external orifices, and that this organ may be divided, as in the above cases, without differing in external form from others having only a single cavity.

Dr. Cassan doubts whether, as has been supposed by some, pregnancy may be present in one cavity, while menstruation is going on in the other, and in confirmation of this, states the case related by Canestrini, of a female who died suddenly at the fourth month of gestation, and in whom a double uterus was found, yet the menses had not appeared during that process. The empty cavity, he supposes, must be more or less influenced by that in which a new action is going on—and hence it has been found to take on a corresponding increase while the intimate relation between the circulating system of the two parts is such, as to forbid us believing that pregnancy and menstruation can at the same time be present.

This anomalous state of the uterus he considers as a vicious organization, or an approach to monstrosity, and he conceives that it renders the idea advanced by some anatomists very probable, that the uterus is originally composed of two parts, which unites at a certain period of gestation, but in the present case, do so later than usual. It also presents us with the most rational explanation of the phenomenon termed *Superfœtation*, and which he defines to be the conception of a second embryo during the gestation of the first.

By this definition Dr. Cassan intends to exclude all those instances of twin pregnancy, in which there is an unequal developement, the one going to the full period and being of the natural size, while the other appears to have been dead for some months, and is not more than a few months advanced.—These last he considers as partaking of the nature of an abortion.

He conceives it impossible that superfœtation can occur in a simple uterus, for the reasons which are usually given. The decidua not only closes the orifice of the uterus, but lines its

sides, and prevents the passage of a second ovum. He even doubts its possibility in those bilobed uteri, which do not present a complete septum or division. In fine, the only cases in which he deems it possible are,

1. *When there is a perfect double uterus.*—In proof of this he quotes the following example. Marquet (*Traité prátique de l'hydropisie et de la jaunisse*) states that in examining the body of a female 48 years old, who died of pulmonary consumption, he found a double uterus resembling two pears reversed, united by their neck, and terminating by a common internal orifice. This woman had brought forth fourteen children, but always prematurely. All her labours had been preceded by hemorrhage, and suceeded by dangerous illness. In one instance, after being delivered of twins of four and a half months, neither of which had a placenta, she was a month thereafter delivered of a fœtus of six weeks.

Madame Bowin communicated to our author the following case, which occurred in her own practice :—

A female, aged forty, and the mother of one child, was delivered on the 15th of March, 1810, of a female child, weighing about four pounds. The abdomen continued of considerable size, but on examination, the mouth of the uterus appeared closed, and nothing could be discovered. On moving the tumour, however, which was towards the right, and higher than that formed by the uterus, the neck of the uterus was found to follow its direction. Motion was felt in it for two months, and on the 12th of May the female was delivered of a female child, weighing about three pounds, weak and almost still-born. All appearances of swelling now subsided. The mother informed Madame Bowin, that she had connexion with her seducer only three times—on the 15th and 20th of July 1809, and the 16th of September following.

2. *Where there is a pre-existing extra-uterine pregnancy.*—There are several cases on record which countenance this opinion. Bartholin relates of a woman in Livonia, who on coming at her full period suffered greatly for three days with

out being delivered. The year following she brought forth a healthy child, and upwards of three years thereafter, she, under great agony, passed for many months by the vagina, the different bones of a fœtus.

In the Memoirs of the French Academy of Sciences for 1756, is an account of a female, carrying a fœtus for twenty-seven months, and at last relieved of it by the Cæsarean operation, but who, notwithstanding, during that period had conceived and been delivered of a healthy child. A somewhat similar case is related in Rust's Medical Magazine for 1823.

Dr. Cliet, of Lyons, in 1818, examined the body of a female, aged 30, who died suddenly, after violent vomiting. He found an extra-uterine fœtus, of about five months, in the right iliac region, while in the uterus there was a fœtus of about three months.

3. *When there is a new conception before the first fecondated germ has occupied the cavity of the Uterus.*—The experiments of Haller, Hunter, and Haighton, and more recently of Home, John Burns, and Majendie, prove that the ovum sometimes does not descend into the womb until eight, fifteen, or even twenty days after conception.

It is this circumstance which will explain the cases of Buffon, Dewees, De Bouillon, &c. where two or more children have been born at the same time, of different colours, and thus indicating different parentage.

One of the most important parts of the essay of Dr. Cassan, is that in which he labours to exclude the cases of twins, the one perfect and the other imperfect, and delivered at various times, from the title of Superfœtation. He believes that in these instances they are conceived at the same time, but from various causes, one has died at some period of its fœtal life. The vitality of twins, says Madame Bowin, are seldom alike. The circulating system of one may be more active than that of the other. It will increase more rapidly, and may thus hasten the destruction of its companion.

On referring to works on Medical Jurisprudence, it will be readily seen that the difficulties of this subject as connected with legitimacy, are materially obviated by embracing the doctrines of our author.

ART. III. *Report of the Select Committee appointed by the House of Commons to inquire into the manner of obtaining Subjects for Dissection in the Schools of Anatomy, and into the State of the Law affecting the Persons employed in obtaining or dissecting Bodies.*

[IT is with sincere pleasure that we transfer to our pages this masterly report, as it shows the progress of liberal and enlightened principles in relation to the business of dissection. *Ed.*]

The peculiar nature of the subject which the Committee were appointed to investigate, has induced them to inquire principally into the practice of the anatomical schools of London, where, by personal communication with the most eminent surgeons, and with the students and principal teachers of anatomy, it could be fully ascertained that no detriment to their interests was to be apprehended from the publicity to arise out of the present inquiry. With regard to the practice of the provincial schools, to avoid the expense of summoning witnesses from a distance, they have been satisfied with written communications from resident professors or practitioners of eminence, which will be found in the Appendix.

The Committee have inquired into the nature of the difficulties which the anatomists have here to contend with, whether arising out of the state of the law or an adverse feeling on the part of the people; and into the evil consequences thence ensuing, as well to the sciences of medicine and surgery as to all who study, teach, and practise them, and eventually to the members of the whole community. They have

called witnesses to show in what manner the wants of the anatomist are provided for in several foreign schools, and to state their opinion whether similar methods could be applied with advantage in this country, and if applied, would be adequate to remove the present difficulties.

The first origin of these difficulties is obviously to be traced to that natural feeling which leads men to treat with reverence the remains of the dead; and the same feeling has prompted them, in almost all times and countries, to regard with repugnance and to persecute anatomy.

As the importance of the science to the well-being of mankind was discovered, the governments of different states became its protectors, and in this country particularly, by the statute of Henry VIII., protection to a certain extent was given and intended to be given to it; but that protection, which at first perhaps was fully adequate, owing to the rapid progress of the science, has long since become wholly insufficient.

How limited were the wants of the science in the former part of the last century, may be learned from the lectures of Dr. Wm. Hunter, who describes the professors of the most celebrated schools, both at home and abroad, as employing in each course of lectures not more than one, or at most two subjects, and as exhibiting the performance of the operations of surgery, not on human bodies, but on those of animals. He represents the students in medicine and surgery as never exercising themselves in the practice of dissection, because for such practice they had no opportunities.

For such a system of instruction the provisions of the statute of Henry VIII. might well be adequate, and these provisions, indeed, may now be considered of importance only as a distinct admission of the principle, that the government of this country ought to protect anatomy. The reformation of this antiquated and imperfect system took place in this country in the year 1746, when Dr. William Hunter, having a singular enthusiasm for the science, established complete courses of anatomical lectures, and opened a regular school for dissection. The reform thus introduced was complete, and its author exulted before his death in having raised and diffused

such a spirit for dissection that he should leave behind him many better anatomists than himself.

Under his immediate pupils and their successors this school has gone on increasing. The earliest account that the Committee have met with of the number of anatomical students resorting to London is that given by Mr. Abernethy, who states that shortly after the breaking out of the war with France they amounted to 200. One of the witnesses, Doctor Macartney, computes their number in the year 1798, at 300; and Mr. Brookes, a teacher of anatomy, in a calculation submitted to Sir Astley Cooper in the year 1823, then reckoned their number to be 1000. It appears from the returns now furnished by the teachers of the different schools in London, that their number at present is somewhat above 800; the diminution in the number since the year 1823 being the consequence, probably, of the pupils resorting to foreign schools, the advantages of which were less known at the former period than they are at present.

When it is considered what a demand there is for practitioners, as well to meet the wants of an increased population at home, as of an extended empire of colonies and dependencies abroad, this rapid increase of students will not appear surprising; and if it is considered also that not only is that demand an increasing one, but that every practitioner, however humble, from that laudable desire for intellectual improvement which characterises the present age, endeavours, if he can afford it, to obtain a good education, and must regard himself as ill educated if he has not gone through a course of dissection, the eventual increase of dissecting students can hardly be calculated, should their wants be supplied abundantly and at a cheap rate.

Although the students now attending the schools of anatomy in London exceed 800, not more than 500 of this number actually dissect. The duration of their studies in London is usually sixteen months, and during that time the number of subjects with which every student in surgery ought to be supplied appears from the evidence (though there is some difference on this point) to be no less than three; two being

required for learning the structure of the parts of the body, and one the mode of operating. The total number of subjects actually dissected in the schools of London in one year is stated to be not greater than from 450 to 500, which is after the rate of less than one subject for each dissecting student; a proportion wholly insufficient for the purposes of complete education.

Dissection on an extended scale began in this country before there existed any such general feeling in its favour, founded on an opinion of its utility, that the British government, after the example of some foreign governments, would venture openly to patronise it. Accordingly, when in 1763, Dr. Hunter proposed to build an anatomical theatre, and to endow it with his museum and a salary for a professor, provided the government would grant him a site of ground for the institution, and his late Majesty would extend to it his countenance and protection, he met with a silent refusal. It was therefore only by stealth, and by means not recognised by the law, that the teacher was enabled to procure subjects. These means, it is notorious, from the time of Dr. Hunter down to the present time, have been principally disinterment; though of late other illegal modes and contrivances, such as stealing before burial, personation of relatives for the purpose of claiming bodies, &c. have occasionally been had recourse to. For some time after the first establishment of dissecting schools, while the number of teachers and students was small and the demand for subjects very limited, the means which were resorted to for obtaining a supply were adequate to the wants of the students, and bodies were obtained in abundance and cheaply. The exhumators at that time were few, and circumspect in their proceedings; detection was rare, the offence was little noticed by the public, and was scarcely regarded as penal; so that (according to one of the witnesses) long after the decision of the judges in 1788, that disinterment was a misdemeanour, prosecutions for this offence were not common, and offenders taken in the fact were usually liberated. If this state of things had continued, though the illegality of the practices had recourse to must be conceded,

yet they could scarcely be said to occasion evils of such a magnitude as to require a legislative remedy. But the number of students and teachers having greatly increased, and with them the demand for subjects and the number of exhumators, detections became frequent, the practice of exhumation notorious, and public odium and vigilance were directed strongly against the offenders. It may be collected from the debates in Parliament which took place in the years 1796, during the progress of a bill for subjecting to dissection the bodies of felons executed for burglary and robbery, that even at that time the public regarded disinterment with strong feelings of jealousy.

In proportion as the public became vigilant, the laws relating to sepulture were interpreted and executed with increasing rigour ; and as the price of subjects rose with the difficulty of obtaining them, the premium for breaking the laws increased with the penalty. The exhumators increased in number, and being now treated as criminals, became of a more desperate and degraded character.

The parties of daring men who now took to raising bodies, did it happen, (as was frequently the case) that, while in pursuit of the same spoil, they fell in one with another, actuated by vindictive feeling, and regardless of the caution and secrecy on which the successful continuance of their hazardous occupation must depend, had contests in the places of sepulture, left the graves open to public gaze, or gave information to magistrates, or the relatives of the disinterred, against their rivals. Frequently, with a view to raise the price of subjects, to extort money, or to destroy rivalry, they have proceeded to acts of outrageous violence, tending to excite the populace against the teachers of anatomy. These, and similar acts of violence and imprudence, have been constantly bringing exhumation to light, and have exasperated the public against both the exhumator and the anatomist ; and this to such a degree, that of late, in many cases, individuals, out of solicitude to guard the dead, have taken upon themselves to dispense with the laws of their country, and have fired upon parties attempting disinterment. Other circumstances, but of

minor importance, have been assigned by some of the witnesses as augmenting the difficulty of obtaining subjects in London, or increasing the demand for them: but as regards them the Committee beg leave to refer to the evidence itself. The general result has been, with some difference, according to differences of place and season (sometimes owing to the caprice and mercenary motives of the agents employed, at other times owing to the real difficulty of obtaining a supply), that of late subjects have been to be procured either not at all, or in very insufficient quantity, and at prices most oppressive to the teacher and student.

The price of a subject about thirty years ago was from one to two guineas; the teacher now pays from eight to ten guineas; and the price has risen even to sixteen guineas. The teachers deliver subjects to their dissecting pupils at a lower price than that at which they purchase them, having been compelled to resort to this expedient lest dissection in London should be abandoned altogether. The loss which they sustain is made good out of the fees which they receive for attendance on their lectures in the anatomical theatre. The cost of providing subjects is also enhanced to the teacher by his being required occasionally to defend the exhumator against legal prosecution, and to maintain him against want, if sentenced to imprisonment, and his family, in case he has one, until the period of his punishment expires.

Nor is it only of a precarious, insufficient, and expensive mode of obtaining subjects that the cultivators of anatomy complain—it is by the law, not as regards the exhumators, but as it affects themselves, that they are aggrieved.

The first reported case of a trial for disinterment is that of Rex *v.* Lynn, in the year 1788, when the Court of King's Bench, on a motion for an arrest of judgment, decided it to be a misdemeanour to carry away a dead body from a churchyard, although for the purpose of dissection, as being an offence *contra bonos mores* and common decency. In this state the law on the subject of disinterment, as interpreted by the Court of King's Bench, appears to have remained until the present year; when Davies and another were tried and convicted at the assizes at Lancaster, and subsequently received

the sentence of the Court sitting at Westminster, for having taken into their possession, with intent to dissect, a dead body, at the time knowing the same to have been unlawfully disinterred. A respectable teacher of anatomy, residing at Liverpool, had been tried and found guilty on a similar indictment at the quarter sessions at Kirkdale, in the month of February in the same year. With these exceptions, magistrates appear hitherto to have taken no cognizance of receiving into possession a dead body, unless there were strict evidence that the receiver was a party to the disinterment; and on this practical view of the state of the law, professional men also appear hitherto to have acted. At present, however, a most intelligent magistrate, one of the witnesses, considers that very slight evidence would connect the receiver with the disinterment; and that the purchase from the exhumator would suffice to send the case to a jury, the knowledge of the fact of disinterment being to be collected from the circumstances, if strong enough to justify the inference. It is stated that there is scarcely a student or teacher of anatomy in England who under the law, if truly thus interpreted, is not indictable for a misdemeanour.

According to the opinion of the last cited witness, to be a party to the non-interment as well as to the dis-interment of a dead body, would render a person indictable for a misdemeanour. Two cases are cited in support of this opinion. In the one, Rex *v.* Young, a non-reported case, but referred by the court in the case of Rex *v.* Lynn, the master of a workhouse, a surgeon, and another person, were indicted for and convicted of a conspiracy to prevent the burial of a person who had died in the workhouse. In the other, Rex *v.* Cundick, which occurred at the Surrey spring assizes in the year 1822, the defendant was found guilty on an indictment for a misdemeanour, charging him with not having buried the body of an executed felon, entrusted to him by the gaoler of the county for that purpose; but with having sold the body for lucre and gain, and for the purpose of being dissected; and on this trial it was not considered necessary to prove that the body had been sold for lucre or for the purpose of

dissection. The witness infers, from the analogy of all these cases, that to treat a dead body as liable to any thing but funeral rites, is an offence *contra bonos mores*, and therefore a misdemeanour.

This state of the law is injurious to students, teachers, and practitioners, in every department of medical and surgical science, and appears to the Committee to be highly prejudicial to the public interests also.

It is the duty of the student to obtain, before entering into practice, the most perfect knowledge he is able of his profession, and for that purpose to study thoroughly the structure and functions of the human body, in which study he can only succeed by frequent and repeated dissection. But his wants cannot adequately be supplied in this country, except at an expense amounting nearly to a prohibition, which can be afforded only by the most wealthy, and precludes many students from dissecting altogether. From the precariousness or insufficiency of the supply, the dissections and lectures are often suspended for many weeks, during which the pupils are exposed to the danger of acquiring habits of dissipation and indolence; and, from the same causes, that important part of surgical education is usually omitted, which consists in teaching how to perform on the dead body those operations which the student may afterwards be required to practise on the living. But not only does the student find dissection expensive and difficult of attainment, but he cannot practise it, without either committing an infringement of the law himself, or taking advantage of one committed by others. In the former case he must expose himself to imminent hazard, and in either he may incur severe penalties, and be exposed so public obloquy. The law, through the medium of the authorities entrusted with conferring diplomas, and of the boards deputed by them to examine candidates for public service, requires satisfactory proof of proficiency in anatomical science, although there are no means of acquiring that proficiency without committing daily offences against the law. The illegality and the difficulties attending the acquisition of the science dispose the examiners in some cases to relax the strictness of their examina-

tion, and induce them, in the case of the Apothecaries' Company, to dispense with dissection altogether; the persons to whom certificates are granted by the examiners of this Company being those who, from their numbers* and extensive practice, ought especially, for the safety of the public, to be well instructed. The annual number of certificates so granted exceeds 400.

The teacher of anatomy, besides the evils which befall him in common with the student, has to suffer others, arising also out of the state of the law, which affect him with peculiar hardship. The obstacles which impede the study of anatomy in this country are such, and the facilities presented to the study in foreign countries are so great, that those English students who are desirous of obtaining a thorough knowledge of the science desert the schools at home, and repair to those abroad. Their principal resort is to Paris, where 200 English students of anatomy are now pursuing their course of instruction.—Dissection probably under these circumstances, would scarcely be followed at home, were it not for the regulations of the College of Surgeons, which require the candidates for the diploma of the college to have learned the practice of surgery in a recognised school within the United Kingdom; so that the student, during the period required for learning this practice, in order that he may the sooner become qualified for his profession, employs a part of his time in learning also to dissect. These disadvantages affecting the teacher are such, that, except in the most frequented schools attached to the greater hospitals, few have been able to continue teaching with profit, and some private teachers have been compelled to give up their schools. To the evils enumerated it may be added, that it is distressing to men of good education and character to be compelled to resort, for their means of teaching, to a constant infraction of the laws of their country, and to be made dependent, for their professional existence, on the mercenary caprices of the most abandoned class in the community.

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* Computed at 10,000 in England and Wales.

But it is not only to the student, while learning the rudiments of the science, and to the teacher, while endeavouring to improve it, that dissection is necessary, and the operation of the law injurious. It is essential also to the practitioner, that during the whole course of his professional career he should dissect, in order to keep up his stock of knowledge, and to practise frequently on the dead subject, lest, by venturing to do so unskilfully on the living, he expose his patients to imminent peril. He is required also, in many important cases, civil and criminal, to guide the judgment of judges and of jurors, and would be rebuked were he to confess, upon any such occasion, that, from having neglected the practice of dissection, he was unable to throw light upon a point at issue in that science which he professed. He is liable, in a civil action, to damages for errors in practice, due to professional ignorance; though at the same time he may be visited with penalties as a criminal, for endeavouring to take the only means of obtaining professional knowledge.

Under these circumstances, affecting equally the student, teacher, and practitioner, the Committee were not surprised to find that this inquiry excited considerable interest in all parts of the country, and that numerous petitions from all classes of the profession, connected with the science of anatomy, were laid upon the table of the House, uniformly praying for an amendment of the existing law on the subject.

But independently of the bearings of the question on the interests of medical practitioners, and on the health of the community, the system pursued is productive of great evil, by training up a race of men in habits eminently calculated to debase them, and to prepare them for the commission of violent and daring offences. The number of persons who in London regularly live by raising bodies, is stated by the two police officers examined before the Committee not to exceed ten; but the number of persons occasionally employed in the same occupation is stated by the same witnesses to be nearly two hundred. Nearly the whole of these individuals, as is admitted by the exhumators themselves who were examined

before the Committee, are occupied also in thieving, and form the most desperate and abandoned class of the community.—If, with a view to favour anatomy, exhumation should be allowed to continue, it appears almost a necessary consequence that thieves also should be tolerated. It should seem useless, however, with a view to suppress exhumation, to endeavour to execute the existing laws with increased severity, or to enact new and more rigorous ones. The effect of interpreting and executing the laws with increasing rigour has been, not to suppress exhumation, but to raise the price of bodies, and to increase the number of exhumators. So long as there is no legalized mode of supplying the dissecting schools, so long the practice of disinterment will continue; but if other measures were devised, which would legalize and insure a regular, plentiful, and cheap supply, the practice of disinterring bodies, and of receiving them, would of necessity be entirely abandoned.

Before adverting to those new methods for obtaining an adequate supply of subjects which have been suggested by the witnesses who have been examined before the Committee they will state in what manner, according to the evidence adduced, the schools of anatomy at Paris are provided. They have also inquired into the practice of some other foreign schools, for an account of which they beg to refer to the evidence itself; and they dwell upon the practice of the schools of Paris, because it approaches most nearly to the plan recommended by most of the witnesses for adoption in this country.

The administration of all the hospitals at Paris, since the Revolution, has been confided to a public board of management. The rule at the hospitals is, that every patient who dies shall be attended by a priest, and that, after the performance of the usual ceremonies of the Catholic church, the body shall be removed from the chapel attached to the hospital to the dead room, and there remain for twenty-four hours, if not sooner claimed by the relatives. Bodies may be examined after death by the medical officers attached to a hospital, in order to ascertain the cause of death, but may not be dissected

by them. A body, if claimed by the friends after examination, is sewed up in a clean cloth before being delivered to them. If not claimed within twenty-four hours after death, after being enveloped in a cloth in a similar manner, it is sent, in the manner hereafter described, to one of the dissecting schools.

There are no private dissecting schools at Paris, but two public ones; that of the Ecole de la Medecine, and that adjoining the Hôpital de la Pitié. These are supplied exclusively from the different hospitals, and from the institutions for maintaining paupers, the supply from certain of these establishments being appropriated to one school, and that from the remaining establishments to the other.

The distribution of subjects to the two schools is confided to a public officer, the Chêf des travaux Anatomiques. He causes them to be conveyed from the hospitals at an early hour in a covered carriage, so constructed as not to attract notice, to a building at the schools set apart for that purpose. They are then distributed by the prosecteurs to the students; and after dissection, being again enveloped in cloth, are conveyed to the nearest place of interment.

The students at the Ecole de la Medecine consist of young men who have distinguished themselves at a public examination, though the person at the head of the establishment is also allowed to admit pupils to dissect. The school of La Pitié is open to students of all nations, who on entering themselves may be supplied with as many subjects as they require, at a price varying, according to the state in which the body is, from three to twelve francs; priority of choice, however, being given to the élèves internes of the different hospitals, and the subjects being delivered to them at a reduced price. English surgeons were here permitted, until lately, to engage private rooms for the purpose of lecturing on anatomy to students of their own nation, and to superintend their labours in the dissecting room. From the protection and facilities which have thus been afforded to the study of anatomy at Paris, it has become the resort of the medical students of all nations

the practice of exhumation is wholly unknown, and the feelings of the people appear not to be violated.

It is the opinion of almost all the witnesses, that the adoption in this country of a plan similar in most respects to that which prevails in France, would afford a simple and adequate remedy for the existing evils. They recommended that the bodies of those who during life have been maintained at the public charge, and who die in work-houses, hospitals, and other charitable institutions, should, if not claimed by next of kin within a certain time after death, be given up under proper regulations to the anatomist; and some of the witnesses would extend the same rule to the unclaimed bodies of those who die in prisons, penitentiaries, and other places of confinement. In the hospitals which supply subjects to the anatomical schools of France and Italy, religious rites are paid to the dead before giving up the bodies for dissection: in the plan proposed for this country, most of the witnesses recommend that the performance of religious rites should be deferred until after dissection, and they are anxious that the anatomist should be required, under adequate securities, or a system of effective superintendence, to cause to be administered, at his own expence, to the bodies which he dissects, religious solemnities and the usual rites of burial.

The plan proposed has this essential circumstance to recommend it,—that provided it were carried into effect, it would yield a supply of subjects that, in London at least, would be adequate to the wants of the anatomist. The number of anatomical students resorting annually to London, and the number of subjects with which they ought to be supplied, have been already stated. It appears from the returns obtained by the Committee from one hundred and twenty-seven of the parishes situate in London, Westminster, and Southwark, or their immediate vicinity, that out of 3744 persons who died in the workhouses of these parishes in the year 1827, 3103 were buried at the parish expence; and that of these, about 1108 were not attended to their graves by any relations. There are many parishes in and around London from which at the time of making this Report returns had not been delivered

in ; but it may be inferred from those returns which have been procured, that the supply to be obtained from this source alone would be many times greater than that now obtained by disinterment ; that when added to the supply to be derived from those other sources which have been pointed out, it would be more than commensurate to the wants of the student, and consequently, that the plan, if adopted, as meeting the exigencies of the case, would eventually be the means of suppressing the practice of exhumation.

If it be an object deeply interesting to the feelings of the community that the remains of friends and relations should rest undisturbed, that object can only be effected by giving up for dissection a certain portion of the whole, in order to preserve the remainder from disturbance. Exhumation is condemned as seizing its objects indiscriminately—as, in consequence, exciting apprehensions in the minds of the whole community—and as outraging in the highest degree when discovered, the feelings of relations. If selection then be necessary, what bodies ought to be selected but the bodies of those who have either no known relations whose feelings would be outraged, or such only as by not claiming the body, would evince indifference on the subject of dissection ? It may be argued, perhaps. that the principle of selection, according to the plan proposed, is not just, as it would not affect equally all classes of the public ; since the bodies to be chosen would, necessarily, be those of the poor only. To this it may be replied—First, that even were the force of this objection to a certain degree admitted, yet that, to judge fairly of the plan, its inconveniences must be compared with those of the existing system, which system, according to the evidence adduced, is liable in a great measure to the same objection, since the bodies exhumated are principally those of the poor ; secondly, that the evils of this, or of any other plan to be proposed on this subject, must be judged of by the distress which it would occasion to the feelings of surviving relations, and the unfairness to one or another class of the community, by the degree of distress inflicted on one class rather than another ; but where there are no relations to suffer distress,

there can be no inequality of suffering, and, consequently, no unfairness shown to one class more than another.

One or two of the witnesses, who appear to be either favourable, or not opposed to the principle of the plan, speak with doubt of its success, as though it would be found impracticable to reconcile the public to its introduction; and one, in particular, apprehends that religious feelings may impede its adoption. An objection founded on religious feelings does not apply to the plan in question only, but would be equally valid, generally, against all dissection whatsoever; and should lead those who urge it, consistently with their own principles, to endeavour to put down altogether the study of practical anatomy.

Though it may be true that the public are to a certain degree averse to dissection, yet it is satisfactory to find several of the witnesses adducing facts to prove that those feelings of aversion are on the decline. They state that in those parish infirmaries where the bodies of those who die are examined, as the practice has become common, it has been viewed with less jealousy: that in these hospitals where a similar rule prevails, neither patients themselves are deterred from applying for admission, nor their relatives on their behalf: that the addition of public dissecting rooms to hospitals has not produced any diminution in the number of applications for relief within the walls of these hospitals; and that, by reasoning with the friends of those who die, and by explaining to them how important it is to the art of healing that examination should take place after death, they may usually be brought to consent to the bodies of their friends being examined. Hence it is argued, that in involving the subject of dissection in mystery, as has hitherto been the case, the public have been treated injudiciously: that with proper precautions, and the light of public discussion to guide them, they may be made to perceive the importance of the study generally, and the reasonableness of the particu ar measure now contemplated, and that when they come to regard it as the means of suppressing exhumation, they will receive it with favour and finally acquiesce in it.

The legislative measures which most of the witnesses are desirous of, in order to enable them to carry the plan into effect, is the repeal of any existing law, which would subject to penalties those who might be concerned in carrying the proposed plan into execution: they wish for an enactment permissive and not mandatory, declaring that it shall not be deemed illegal for the governors of workhouses, &c. and for anatomists, the former to dispose of, the latter to receive and to dissect, the bodies of those dying in such workhouses, &c. such bodies not having been claimed, within a time to be specified, by any immediate relations, and due provision being made for the invariable performance of funeral rites. Some few of the witnesses, indeed, who state that they wish for the success of the plan, contemplate any legislative interference whatever in this matter with apprehension; but they do not appear to have been aware how nearly the cases decided by the courts of law, and already adverted to, would apply to persons engaged in executing the plan in question. In those cases the bodies, for the non-burying of which the defendants were severally convicted, were those of a pauper who died in a workhouse, and of a person who suffered death as a felon. If these cases apply, as it appears they do, to persons engaged in giving up or in receiving, for other purposes than for burial, the bodies of the inmates of workhouses or of prisons, such impediments to the success of the plan cannot be removed, as these witnesses think they might be, simply by the favourable interference of the executive government, however disposed to show indulgence to the profession; but an act of the legislature can alone provide a remedy.

Amongst the measures that have been suggested for lessening the dislike of the public to dissection, is that of repealing the clause of the act of Geo. II. which directs that the bodies of murderers shall be given up to be anatomized. It appears from the returns already laid before the House, that, as regards the direct operation of this clause, on the supply of subjects, the number which it yields to the anatomist is so small in comparison of his total wants, that the inconvenience which he would sustain from its repeal would be wholly

unimportant. As to its remote operation, almost the whole of the witnesses examined before the Committee, and of those whose written communications will be found in the appendix, are of opinion, that the clause in question, by attaching to dissection the mark of ignominy, increases the dislike of the public to anatomy, and they therefore are desirous that the clause should be repealed.

The Committee would be very unwilling to interfere with any penal enactment which might have, or seem to have, a tendency to prevent the commission of atrocious crimes; but as it may be reasonably doubted whether the dread of dissection can be reckoned amongst the obstacles to the perpetration of such crimes, and as it is manifest that the clause in question must create a strong and mischievous prejudice against the practice of anatomy, the Committee think themselves justified in concluding, that more evil than good results from its continuance.

The Committee consider that they would imperfectly discharge their duties if they did not state their conviction of the importance to the public interests of the subject of their inquiries. As the members of the profession are well educated, so is their ability increased to remove or alleviate human suffering. As the science of anatomy has improved, many operations formerly thought necessary have been altogether dispensed with; most of those retained have been rendered more simple, and many new ones have been performed, to the saving of the lives of patients which were formerly thought impossible. To neglect the practice of dissection would lead to the greatest aggravation of human misery; since anatomy, if not learned by that practice, must be learned by mangling the living. Though all classes are deeply interested in affording protection to the study of anatomy, yet the poor and middle classes are the most so; they will be the most benefitted by promoting it, and the principal sufferers by discouraging it. The rich, when they require professional assistance, can afford to employ those who have acquired the reputation of practising successfully. It is on the poor that the inexperienced commence their practice, and it is to the poor that

the practice of the lower order of practitioners is confined. It is, therefore, for the interest of the poor especially, that professional education should be rendered cheap and of easy attainment; that the lowest order of practitioners (which is the most numerous,) and the students on their first entry into practice, may be found well instructed in the duties of their profession.

Such, on an attentive consideration of the evidence adduced, is the deliberate judgment of the Committee on the matters submitted to them; and it now remains for the House to consider whether it will not be expedient to introduce, in the course of the ensuing session, some legislative measure which may give effect to the recommendations contained in the present Report.

July 22, 1828.

ART. IV. *Case of Poisoning by Laudanum, in which the Stomach Pump was successfully used.* By CHARLES A. LEE, M.D. of New-York.

AMONG the late improvements in the healing art, the evacuation of the stomach, by the use of the stomach-pump, deservedly ranks amongst the most important. There is much reason, however, to believe, that this admirable instrument is not duly appreciated by the profession generally, inasmuch as but few are in possession of it, and seem to regard it more as a matter of curiosity than an article of use. Dr. Paris, in his Pharmacologia, speaks of it in such cold terms of praise, as to weaken, if not destroy all confidence in it among those who have not learned its value from actual experiment. He remarks—"There are cases of narcotic poisoning in which there can be no doubt it would furnish the practitioner with a valuable resource, but I much fear that it will be found to be less successful than its more sanguine advocates have anticipated; for where the stomach has so far lost its powers as

to be insensible to the stimulus of a potent emetic, the chances of recovery are small." However small the chances of recovery may be in such cases, they surely will not be lessened by the prompt removal of the offending substance; besides, the difficulty of swallowing is often so great, that an emetic cannot be administered without employing the stomach-pump.

To illustrate the superior efficacy of this apparatus to all other means, and to prove, what is still more to the purpose, that we can sometimes succeed by the use of it when all other means wholly fail, I take the liberty of detailing the following case which occurred in my practice.

Mrs. I. a widow lady, æt. 28, of delicate constitution, nervous temperament, and subject occasionally to great mental depression, swallowed a large quantity of laudanum. She had been troubled for some time previously with violent attacks of hysteria, occasioned by dysmenorrhœa, and regularly returning at every catamenial season. These attacks would continue from one day to a week or more, during which her spasms were often so strong, that it required several persons to prevent her from inflicting self-injury. In one of these *cerebro-uterine* paroxysms, she threw herself from the second loft to the pavement, without, however, receiving any hurt, except a slight concussion of the brain.

Apprehensive that one of these painful attacks was approaching, she resolved to anticipate it by a *quietus dose* of a narcotic. She accordingly swallowed what laudanum she had procured (the precise quantity not known) the primary effect of which was the very same she wished to obviate. The *hysterical paroxysm succeeded;* she became furious, raving, frantic—but in a few minutes to this high state of excitement corresponding depression followed. Now succeeded with alarming rapidity the usual symptoms of narcotic poisoning—giddiness, obscure vision, convulsions, aphonia, wildness of the eyes, palpitation, and at length total stupor. The usual metallic emetics were with some difficulty administered, but without the least effect in exciting nausea. A strong solution of tart. antimony with ipecac. proved as ineffectual. All attempts likewise to excite

the irritability of the stomach by external stimulants were unavailing. Some hours had now elapsed, and the symptoms assumed a still more alarming character. The breathing became stertorous, the extremities cold, the pulse feeble and frequent, and all signs of sensation and motion disappeared.—Cold affusion had no further effect than to rouse the patient sufficiently to administer the remedies. It soon ceased, however, to have even this effect.

As a last resort, I had recourse to the stomach-pump. The œsophagus tube was readily passed into the stomach, and it was guarded from injury by introducing a piece of cork between the teeth. Several pints of tepid water were injected and pumped out again, until the stomach was completely cleansed. I did not take advantage of the instrument in throwing in stimulating articles (as I should have done and as ought to be done in every similar case) and thus restore the patient from the death-like torpor which prevailed. During this time, the respiration was stertorous and apoplectic, the extremities cold, the eyes fixed in their sockets, the skin covered with a clammy sweat, and every thing indicated a fatal result.—Sinapisms of mustard applied to the extremities, stimulating frictions employed on different parts of the body, together with such internal stimulants as she could be made to swallow, at length succeeded in rousing her from her lethargy, just twelve hours after swallowing the laudanum. Let the above case be added then, to those already on record, where life has been preserved by the employment of the stomach-pump.

ART. V. *A Case of anomalous Intermittent Fever.* By CHARLES MCKNIGHT SMITH, M.D. of New-Jersey.

AN anomalous case of tertian intermittent, complicated with an eruption resembling urticaria, recently occurred in my practice, the symptoms, treatment, and termination of which I will relate.

Daniel A. aged 64 years, of spare habit, and who for about three months had suffered from diarrhœa, was on the morning of the 20th of September last, seized with a severe rigor, followed with great heat, and ultimately profuse diaphoresis.—Almost simultaneously with the rigor appeared an eruption of a bright red colour, attended with an intolerable itching, pain, and sense of sinking at the epigastrium. This eruption was confined during the first paroxysm (which lasted about six hours) to the *left* side of the body. When the paroxysm terminated, the eruption receded, but on the 22d, somewhat later, another occurred similar in every respect to the first, with this exception, that the eruption now occupied the *right* side, the left being totally free. These periodical exacerbations and remissions continued about a week, the eruption alternately affecting the right and left side. During this time an emetic of eupatorium perfoliatum (boneset) was taken; it produced an emesis, and partially relieved the weight or sense of sinking at the præcordia, but did not interrupt the chain of morbid actions. I saw the patient for the first time during the fourth paroxysm, the symptoms those as detailed above. I administered an emetic of tartarised antimony, which disgorged the stomach of a large quantity of bile, the operation of which being over, Fountain's mineral sol. ars. was given in doses of 6 min. every two hours, and its use continued 12 hours. The medicine was then discontinued, and on the following day a brisk cathartic of calomel and jalap brought away a large quantity of fœtid excrement. The ensuing day the disease recurred as before; the use of the arsenic was resumed in doses of 4 min. every two hours, and repeated six times, followed the next day by calomel and jalap. From this time the paroxysms ceased, the eruption disappeared, and he was soon restored to health. The disease has not since returned; no unpleasant effects whatever followed the use of the arsenic—neither nausea, difficulty of breathing, puffiness of the features, nor soreness of the eyelids were observable. I must also remark, that the diarrhœa has also wholly disappeared.

ART. VI. *New mode of detaching the Placenta in cases of Partial Adhesion and Hemorrhage.* By FRANCIS O. DOUCET, M.D. of New-York.

THIS new method was first proclaimed by Dr. Bened. Majon in France, and consists in injecting cold water and vinegar into the umbilical vein. This simple method, says the Doctor, is never attended with danger, and he assures us he has had many opportunities of giving it a fair trial and has never failed of success.

It is necessary to express the blood from the cord, and to inject the water moderately into the umbilical vein.

Whether it be the result of the sudden impression, and the distention which is produced by the liquid in the tissue of the placenta, or the cold which is produced instantaneously in the vascular tissue which unites the placenta to the uterus, or the augmented weight of that celulo muscular mass, the placenta detaches itself spontaneously, without being obliged to introduce the hand into the uterus, as it is usually done in cases of consecutive hemorrhage. The injection may be repeated twice or three times, provided the liquid injected at first be all expelled.

Although it is evident that the result can be produced by acidulated water, may not the same effect be produced by injecting cold water alone? Is it not to be feared that the water might be forced into the tissue of the uterus and produce metrite?

Early in September last, I attended a woman in childbed of her fourth child, after the expulsion of the fœtus, the hemorrhage was considerable. I attempted to extract the placenta, but found great resistance; I had recourse to the usual means with as little success. I then injected cold acidulated water into the umbilical vein, the hemorrhage ceased in an instant, and soon after the placenta was expelled, the woman was put to bed, and a little warm cinnamon water with wine was administered; the lochia were regular, and the woman afterwards enjoyed perfect health.

ART. VII. *History of a Case illustrating the effects of a cold climate in Pulmonary Consumption.* By Dr. XAVIER TESSIER, of Quebec.

IT is an opinion universally entertained, that the change of climate, from a northern to a more southern latitude, will afford considerable benefit, if not produce a radical cure in cases of pulmonary consumption. The fact of the comparative scarcity of pulmonary consumptions in the frozen climate of Canada, led me to suspect that a cold atmosphere might perhaps relieve those diseases, on the same principle that it seemed to prevent their more frequent occurrence. Without entering into any theoretical speculations, I will endeavour to prove the truth of my remark, by relating a very singular instance which occurred in my practice, and is yet the only case of the kind on record.

A young gentleman, twenty-two years of age, of a lymphatic temperament, thin, and tall, having a long neck, depressed chest—in a word, possessing all the attributes of a tendency to consumption, had heretofore enjoyed good health, when he was sent as a clerk to some of the Indian trading posts on the coast of Labrador. He lived there for two years, amidst all the hardships of a continual winter, without any kind of indisposition. He now returned to Quebec during the warm season. Shortly after his arrival he was affected with a troublesome dry cough, with vagrant pain about the chest, and that peculiar tickling sensation at the glottis, which is so remarkable in the first stages of consumption. How this would have terminated had he remained under the comparatively warm climate of Quebec, will be seen hereafter. His stay in the city was not more than four weeks, when he set off again for Labrador. About a week after his departure, and as he approached the vicinity of the pole, he recovered his perfect health. Two years after he again came to Quebec, and the symptoms he had formerly experienced appeared as before, and continued until he returned to his former place of residence. During the space of six other years

he came four times to Quebec, and the same symptoms never failed to come on about a week after his arrival. After remaining during ten years at Labrador, he determined to make his final stay in Quebec, and applied to me for advice. On hearing his narrative, I was struck with the peculiar character of a case which was so evidently in contradiction to our ideas of the influence of climates on such diseases; and resolved to observe very carefully the progress of the case while he should remain in Quebec. Being convinced of the propriety of his continuing a mode of life which had saved him so many times from what I considered a mortal attack, I desired him to resume, as much as possible, the habits and regimen he had been accustomed to in Labrador.

The winter was now setting in, and, as I had anticipated, his complaint did not materially increase, although the symptoms continued nearly the same. But it must be recollected that the patient, notwithstanding the severe winter of Quebec, had passed to a more southern region, the difference between the cold temperature of Quebec and Labrador being about twelve degrees of Farenheit.

The course of conduct above alluded to did not produce any sensible benefit; and having some reluctance at pursuing a line of practice so directly in contradiction with all the rules of my art, being also apprehensive that the disease would gain time, and consequently become more obstinate to whatever little means we possess of checking its early progress, I commenced a regular medical treatment, as I dreaded the approach of the spring, which was beginning to set in.

The patient was put on milk diet, light meat, and moderate exercise; blisters were put to the chest, where the pain had become fixed, and an eruptive discharge was kept up by means of the ointment of tartarized antimony. This treatment, which I conceive to be the best adapted to these cases, was persevered in to the last, but with no apparent relief.—The disease began rapidly to increase on the return of summer, and the patient died on the 20th of September following, nearly one year after his return from Labrador.

I make no comment on this case—it does not require any;

the consequences are self-evident ; and I presume they are such as will warrant at least the assertion that this ought to be attended to in future. Thus, for the inhabitants of the southern states the climate of Canada might prove a very appropriate place of resort for those who may feel disposed to make the trial, whilst the cheerfulness which prevails throughout that cold but agreeable country, will greatly contribute to produce that hilarity which is always so desirable in such cases.

ART. VIII. *On the Treatment of Diseases of the Respiratory Organs.* Translated from the French of Begin's Therapeutics by Dr. X. TESSIER, of Quebec.

THE organs of respiration are closely connected with the principal viscera of the animal economy, by numerous sympathies. Pulmonary irritations are sometimes propagated to the stomach or the brain ; at other times, they are merely the result of a displacement of those irritations which are fixed in one or the other of those organs. Clinical observation demonstrates that the most intense and obstinate pneumoniæ, and consequently the most dangerous, frequently succeed a violent gastro-enteritis, during which the irritation, sympathetically carried to the lungs, becomes predominant in them, whilst that of the digestive canal thereby disappears. Bilious pneumonies, so well described by Stoll, were similar combinations of gastritis or gastro-enteritis, with pulmonary inflammations. We seldom observe both irritated to the same degree, at the same time. One of them generally overcomes the other, and is the more seriously and rapidly affected in proportion to the intensity with which the one which has become free from disease, was the more deeply affected.

These sympathetic relations between the lungs and the stomach do not exist solely during acute diseases, producing metastasis and complicated irritations. The same train of symptoms is to be observed in their chronic stage. Phthisis generally terminates in gastro-enteritis. Gastritis, on the

other hand, sympathetically excites that dry, short, frequent, jerking cough, which has of late years attracted the attention of medical men. At other times, it gives rise to vague pains, which are fixed either under the mammæ, or towards the scapula, or in the whole base of the chest. Finally, in subjects whose respiratory organs are irritable, chronic affections of the stomach often bring on latent pneumoniæ, followed by tubercles. It is to be remembered, however, that chronic irritations of the lungs more frequently produce gastritis than this does the former: it may be the reverse in acute inflammations of those organs.

Another sympathy, no less important to be attended to, both by the physiologist and the practitioner, is that which connects the lungs with the integuments. These two organs seem to perform, to a certain extent, similar functions: the pulmonary transpiration is the more abundant as that of the skin is lessened, and vice versa. Hence we may conceive that cutaneous irritations will easily operate on the mucous membrane of the lungs; that their metastasis will frequently be carried to the chest; and that, after, violent excitations of the periphery of the body, cold will have the effect of propelling the fluids on the lungs, rather than on other viscera.

Various other sympathetic relations, which, though less understood, still deserve as much attention, connect the organs of respiration, and especially the lungs, with the external fibrous tissues, the articulations of the limbs, and even with the muscular system, as proved by the facility and frequency of their metastasis on the pulmonary tissue, and the pleura.

With regard to the sympathies of the lungs with the heart, they undoubtedly depend as much on the connexion existing between their functions, as on sympathies, properly so called. The pleura, however, participates very often in inflammations of the pericardium, or extends its irritations to that membrane; all pulmonary affections bring on fever with a degree of rapidity commensurate with their more immediate action on the circulation.

Diseases of the organs of respiration manifest very numerous and varied phenomena; a sense of suffocation, and a hoarse cough, accompany the inflammations called croup; a cough returning at different periods of the day, and attended with long-continued efforts, characterize the hooping-cough; aphony, or a permanent alteration of the voice, with a fixed pain in the larynx and trachea, announce what is called phthisis laryngea; the expectoration of abundant mucus, pungent pain, difficulty of breathing, &c. accompany pulmonary catarrh, as well as pneumonia, pleuritis, and other inflammations of the respiratory organs.

Placed within a cavity, enclosed by moveable and elastic, but incompressible parietes, these organs when diseased cannot be so immediately and correctly investigated as other parts of the body; and if we add to this circumstance the variety of accidents to which their diseases can give rise, it will not be wondered at that their diagnostic should have been so difficult until the days of Awenbrugger, and the researches of M. Laennec. In this respect, authors have been long mistaking effects for causes, and symptoms for diseases. Difficulty of breathing, asthma, and cough have had their place in the nosological tablets, and therapeutics was overloaded with incisives, pectorals, expectorants, &c. Pathological anatomy was alone capable of demonstrating that expectoration, dyspnœa, and cough, may be the effects of divers affections, which must form the basis of all curative indications, and become the exclusive object of all medications.—The physiological physician has no longer to treat croup, asthma, hooping-cough, catarrh, difficulty of breathing, &c. but he has before him such diseases as the following: laryngitis, tracheitis, bronchitis, pneumonia, pleurisia, dilations of the heart, &c. all of which convey correct ideas to the mind, and have an evident seat which leaves the traces of its impression on the body after death.

Therapeutically considered, the diseases of the respiratory organs, which call for the use of debilitating agents, may be divided into acute or chronic irritations of the larynx and trachea, of the mucous membrane of the bronchiæ, of the

parenchyma of the lungs and of the pleura. To this limited number of affections, which are sometimes isolated, but more frequently combined, we are evidently to refer, either as symptoms, or as material consecutive disorders, all those diseases and alterations which may affect the organs of respiration, and are the objects of such multiplied pathological and anatomical descriptions.

There are several means by which the physician can debilitate the organs of respiration; they are, 1st, lenient drinks; 2d, evacuations of blood; 3d, emollient fumigations, and the various substances which are sometimes used in the form of vapour; 4th, calming and sedative applications on the external surface of the chest. These medications, to which we may add rest of the affected part, are susceptible of being resorted to either simultaneously or combined in various ways, according to the indications to be fulfilled. Let us now consider each of them separately.

All lenient, mucilaginous and gummy drinks, act in a special manner on the mucous membrane of the lungs. This action seems to be sympathetic of that which those fluids exercise on the internal membrane of the digestive organs; at least, they operate so suddenly after their ingestion, that it is not probable to suppose the absorption of their particles could have taken place in so short a time. Thus, in some subjects, the acrid heat of the chest, and disposition to cough, are diminished at the very moment when a cup of infusion of mallows, or of a solution of gum reaches the stomach. The moment a pastile made of the paste of marsh mallows is placed into the mouth, its lenient effects are immediately felt. We are not, therefore, to place too much confidence in the passage of medicinal particles into the blood, or in their immediate action on the pulmonary tissue. On the other hand, those particles are generally much altered by the digestive action of the stomach, intestines, and lymphatics. But we cannot deny the possibility of a rapid inhalation of a large quantity of aqueous liquid, which perhaps preserves some mucilaginous quality, and exerts on the composition of the venous blood, and consequently on the lungs through which that liquid is

carried, a more or less considerable action, which is added to, and fortifies the sympathetic influence already exercised by the stomach. The effect of both these orders of impressions, produced by emollient substances, is that the mucous surfaces of the pulmonary passages are thereby lubrefied, relaxed, smoothed, and relieved. Under their influence, the pain in bronchitis is diminished; the cough is less frequent, troublesome and dry; they relieve the heat of the irritated parts; and even in pneumoniæ, emollients taken into the stomach, often subdue the violence of the symptoms, and not unfrequently perform a cure.

Some of the emollients enumerated in the first part of this section, such as marsh-mallows, lungwort, wild poppies, jujubes, gum arabic, the broth of frogs and of snails, the yelk of the egg diluted in water, seem to possess a decided influence on the pectoral organs. They are generally employed in the form of infusions, decoctions, syrups, and pastiles.

Vegetable acids are not proper in phlegmasiæ of the lungs: some may, however, be used to season mucilaginous substances, such as pippins, oranges, and other acidulated vegetables, when the fever is high, and the dryness of the mucous membranes and the internal heat considerable.

We must here notice the errors into which empirics have generally fallen in prescribing hot pectoral emollient drinks. These liquids should not be given cold even in the most acute phlegmasiæ, as they would thereby lose much of their soothing and relaxing property. But, when given hot, they excite the circulation of the blood, and a general stimulation, and operate as diuretics or sudorifics. In such cases, when the pulmonary irritation is gentle, recent, and, as it were, superficially extended to the mucous membrane of the bronchiæ, hot drinks may displace and even remove it altogether, by occasioning an over-excitement in the kidneys or in the exhalents of the skin. They may then be considered as revulsives. But when the pulmonary affection is violent, and deeply seated, their action failing to displace the irritation, increases the disease and becomes injurious. Sydenham had

observed that the perspiration occurring spontaneously in pectoral diseases is favourable, while those artificially produced may prove hurtful. In prescribing warm pectoral drinks against pulmonary inflammations, the physician is not unlike the vulgar who administers hot wine in these diseases. He exposes his patient to equal chances of either curing or increasing the disease. I believe it important, however, for the practitioner to prescribe, in cases of inflammation in the chest, lukewarm mucilaginous drinks, at the temperature of thirty or thirty-two degrees of Reaumur: if colder, they will act as excitants, and consequently be injurious, whenever they prove insufficient to operate a salutary revulsion.

These drinks should be taken plentifully, owing to their promoting perspiration, through which part of the aqueous particles are constantly elicited, and because the lungs being in a state of irritation, the blood in passing through them, reuires to be rarefied in order to produce no stimulant impression on their tissue.

The second indication, blood-letting, acts with as much energy and efficacy on the organs of respiration as on the external parts of the body. In order to be consistent with the order of this work, I ought only to mention here local bleeding; but letting blood from the veins possesses such immediate and important influence on inflamed lungs, that I cannot forbear giving them a particular attention in this place.

The lungs are to be considered as a dependence of the vascular system; their functions are intimately connected with those of the heart, and they serve as an intermediate organ between its right and left cavities. The most important of those functions is that of imparting to the venous blood, those properties which are necessary to the proper excitement and nourishment of all organs and tissues. It is evident that this conversion of venous into arterial blood, in whatever light we may view it, cannot take place without a special action of the parenchyma of the lungs, which must thereby become the seat of a more or less considerable excitation, and some degree of congestion of blood. We all know that the

greater the mass and rapidity of the blood throughout the circulating system, the more will the lungs be excited, exhausted, or irritated by its more frequent passage through them. If on the other hand, the pulmonary tissue and the mucous membrane of the bronchiæ are then in a state of acute or chronic irritation, it is evident that the febrile excitement as well as the mass of blood will thereby tend to increase that irritation.

We may, therefore, conclude from these facts, that the letting of blood from the veins has a direct tendency to lessen the activity of the functions of the lungs, by taking away a portion which these organs would elaborate in a given time, lessening the rapidity of the circulation, and thereby increasing the interval between each jerk of blood to the lungs, and each inspiration. This local effect is, to a certain extent, independent of that produced by general evacuations of blood on the whole of the vascular system. By lessening the mass of blood in the pulmonary artery, the organ is reduced to a state of rest, resulting from the diminution of its contents; and by relieving at the same time the bronchial arteries, the irritated tissues become free from a part of that blood which nourishes them, and contributes so powerfully to increase their over-excitement.

Local blood-letting never had heretofore been attended to in the treatment of pulmonary complaints; it fell to the lot of physiological physicians to demonstrate the good effects produced by this means, which was already employed with success against a number of other diseases. Leeches applied to the chest may be considered as acting locally on the lungs, such is the rapidity of their effect on those organs, and such the evident success attending their application. The close sympathy uniting the thoracic viscera with the corresponding regions of the skin, explains satisfactorily the effects of those capillary bleedings on the parenchyma of the lungs; it might perhaps also be said that by drawing a more or less considerable portion of blood into the divisions of the intercostal arteries emanating from the aorta, they diminish in a direct manner the quantity of that fluid which is to fill the bronchial

arteries arising from the same trunk. This action, however, I consider as subordinate to that which takes place by the agency of the sympathies. It is, undoubtedly, by their action on the lungs, as on other organs, in relieving the irritation of the affected tissues, and lessening the violence with which the arterial blood is carried to them, that capillary blood-letting will remove local excitements and their subsequent effects.

In the treatment of diseases of the chest, warm emollients applied to the thorax must be considered as powerful auxiliaries to general and local bleeding. By drawing the blood to the surface, and promoting perspiration; by keeping up a moist, equal, and continued heat on the outside of the chest, emollient cataplasms or fomentations operate on the lungs as derivatives, and by means of the sympathies, as direct relaxing agents. Those applications are always useful; in acute inflammations of the bronchiæ, and of the pulmonary tissue, I have seen them produce a sudden diminution of pain, an evident internal relaxation, and a decided beneficial effect upon the cough. Those means must not be considered as the most powerful that therapeutics possesses.

Some precaution, however, is necessary in their employment: fomentations with several folds of flannel dipped into a decoction of the roots of marsh-mallows, after being strongly pressed to let out the fluid, and applied burning to the thorax, are to be preferred to cataplasms. The whole chest must be covered with them in all its extent, and from one side to the other. This topic possesses all the benefit of cataplasms without partaking of their inconvenience, inasmuch as it is less heavy, easier to be renewed, less fatiguing to the patient, without having the same tendency to shift and get cool. Two compresses should be kept in readiness, that one may be applied as soon as the other is removed, and that the skin, which is then moist and warm, should not be exposed to the contact of the air. These details are important in practice, and we often see the most appropriate means fail, owing to the imperfect and vicious manner in which they are used.

It is difficult to act directly on the mucous membrane of the lungs. Emollients can only be used in the form of vapour, such as that arising from boiling mucilaginous decoctions. Some sedative and narcotic plants are often added to them with advantage, as henbane, morel, poppies, &c. M. Alibert says that, in the case of a woman afflicted with violent cough, threatening suffocation, he succeeded in allaying the spasms of the respiratory organs and relieving the patient by having the room completely filled with the vapour arising from a decoction of marsh-mallows and other emollient plants. I have obtained the same result in two or three cases of violent cough, with acute and lacerating pain in the bronchiæ. Some cases are related where, in similar diseases, and in catarrhal phthisis, good effects have resulted from the vapour of sulphuric ether mixed with the air. Living in low damp places loaded with matter obnoxious to respiration; the atmosphere of stables and of other places filled with animals who rarify and impoverish the air, deprive it of oxygen, and overload it with carbonic acid, with aqueous vapour and animal matter, have been extolled by a number of practitioners, but never produced any well established success, and will be advantageously supplied by the means indicated above.

Pneumatic chemistry had hardly paved the way to the valuable discoveries to which it subsequently led, when medical men entertained the hope of its affording some powerful and new mode of acting on the organs of respiration. But, in this as in other cases, stimulants were first resorted to.—Little attention was given to those gases which were susceptible of lessening the action of the lungs, and thereby diminishing the irritation seated in them. M. Marc has, however, collected some facts which would appear to point out the advantage of recurring to that practice. The physician caused his phthisical patients to inhale air containing a greater quantity of azote than in the natural state, and in two cases there was a decided diminution in the violence and force of the pulse. One of them remained several days without fever, and his colliquative sweat had disappeared; but a relapse,

occasioned by some imprudence, banished all the hopes he had entertained of recovery. The same practitioner has administered carbonic acid, with some success, in chronic inflammations of the trachea.

These observations prove that the combination of several gases is susceptible of modifying the action of the lungs, and of affording some relief in their affections; but our knowledge is yet too limited on that point to lay down any precise rule relative to their employment. The immediate debilitating medications of the mucous membrane of the lungs, may then be finally reduced to the following: inhaling the vapours of relaxing and gently narcotic vegetables; inhabiting low, damp places, loaded with animal matter, and where the atmosphere cannot be renewed without difficulty.—But medicine places little confidence in the former, and has altogether justly proscribed the use of the latter.

Having examined what I might call the elementary medications by which the practitioner may lessen the vital activity of the thoracic viscera, let us now consider what application he is to make of them in the numberless diseases of the organs of respiration.

Of the treatment of acute inflammations in the organs of respiration.—It is somewhat easy for the physician who possesses accurate ideas of the nature of the various affections of the organs, to apply the rules we have already laid down for their treatment.

Violent and decided inflammations of the mucous membrane of the pharynx, larynx, and trachea, should be treated locally by means of leeches to the neck and parts corresponding to the seat of the affection. Emollient lotions and fomentations should afterwards be made to promote bleeding from the punctures. This treatment, when actively employed at the commencement of those diseases, seldom fails to check their further progress. Emollient gargarisms in the various species of cynanche, and the inspiration of vapour arising from a decoction of marsh-mallows when the larynx of the trachea

are affected, will always prove beneficial when added to the other means already indicated.

We are to follow the same plan when inflammations of the throat, pharynx, and trachea are so intense, and the sebaceous glands so stimulated as to give rise to the formation of pseudo-membranes over the affected parts. Adults, as well as children, are exposed to that disease called by authors gangrenous sore throat; but the latter are almost exclusively liable to that form of laryngo-tracheitis, in which false membranes are produced, and constituting the croup. A close examination of facts and of symptoms clearly show, that the latter is but an inflammation of the mucous membrane lining the upper part of the aerial passages. MM. Chaussier, Neysten, and others, have observed it in adults in consequence of inhaling chlorine or ammonia; others have produced it almost ad libitum in animals, by irritating their larynx and trachea.

Here also abundant local bleeding is the most efficacious means of checking the irritation, and preventing the formation of false membranes. These anormal productions are nearly void of danger in angina; but in laryngitis and tracheitis they prove an obstacle to the introduction of air into the lungs, and their presence generally brings on suffocation and death.

M. Desruelles has demonstrated* that there exists no false croup. We must also reject the existence of mucous, adynamic, spasmodic, nervous croup, &c. Croup is but one disease; it consists in an inflammation of the mucous membrane either of the larynx alone, or, as is more frequent, of both that organ and the trachea, or the inflammation may sometimes, though very seldom, extend to both these organs and to the first divisions of the bronchiæ. The spasms and other accidents accompanying it, are the result of the sympathy exercised on the brain by the affected parts; the adynamic and ataxic symptoms are the result of a complication of the

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* *Traité théorique du croup.* Paris, 1823, in 8vo.

disease with a violent gastro-enteritis. But the disease is always fundamentally identical, and requires in all cases the same local depleting treatment. As soon as the symptoms of croup begin to appear, whatever be the temperament of the subject, and the nature of those general symptoms, we must immediately have recourse to copious local bleeding, in a quantity proportionate to the intensity of the symptoms and the constitution. We are not to be deterred by the fear of weakening the patient; but give all our attention to the imminence of the danger. The inhaling of aqueous and emollient vapours, will greatly promote the good effect of blood-letting. It is only after the violence of the laryngo-tracheal irritation has been diminished, that we may successfully employ revulsives as hereafter indicated, if the symptoms should not subside.

The inflammation of the pulmonary mucous membrane, or of the bronchiæ, also requires the use of antiphlogistics: the patient should be kept in an absolute state of rest, free from exposure to cold; he must take emollient and mucilaginous drinks; his chest must be covered with flannel, either dry or impregnated with a warm decoction of marsh-mallows. In these affections, Stoll never neglected the inhaling of aqueous vapours, which he called with truth and energy, bathing of the lungs.* Should the cough be painful, and a burning sensation felt in the chest, the treatment must be more active; leeches above the superior part of the sternum, in the pit formed by the intermediate space between the sterno-cleido-mastoidei muscles, will then be found highly serviceable. In this place, they act almost immediately on the inferior part of the trachea; the relaxation they occasion is soon propagated to the most proximate divisions of that tube.—When fever, pain, and spitting of blood accompany those symptoms, the strictest diet and general bleeding are imperiously called for.

Every practitioner will be convinced of the justness and importance of the remark, that inflammations of the mucous

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* Stoll, aph. 134.

membrane of the lungs should always be treated with greater activity and perseverance, as they are more susceptible of either producing or aggravating croup or pneumonitis, or of continuing under the chronic form, and thereby constituting incurable pulmonary catarrhs, terminating in phthisis.

It is also proper to observe that, in these cases, the antiphlogistic treatment should be persisted in, until the symptoms have entirely subsided; by having too soon recourse to tonics, excitants, and other similar remedies, the irritation will be reproduced, or its complete cure prevented, thereby allowing it to proceed until it has extended its ravages to the parts affected.

One of the most serious inconveniences arising from ancient nosologies, was that of separating, by distinct sections, diseases which have the greatest affinity amongst themselves, and which are easily converted the one into the other. The greatest resemblance exists between pulmonary catarrh or acute bronchitis, and a slight pneumonia: although these diseases appertain, the one to mucous, and the others to parenchymatous inflammations. But the anatomic-physiological order followed in this work, connects those affections; it allows us, in describing them, to imitate the almost insensible gradation which nature itself has placed in their developement.

Owing to the importance of the organ it affects, the rapidity of its march, or to its immediate or remote dangers, pneumonia is one of the most serious inflammations which can attack the human body; one which consequently requires the most prompt and active treatment, and the most conformable to a sound medical doctrine. This treatment, apparently so easy and simple in theory, is practically complicated, and surrounded with difficulty and uncertainty. If, in simple cases, in adults, where the pulmonary irritation is moderate, the equilibrium should manifest a tendency to return; and if the practitioner can then with safety confine himself to promoting the salutary effects which he witnesses, his task is often more delicate, and on his inaction, or on the means he

resorts to, will sometimes immediately depend the recovery or loss of his patient.

In order to direct a methodical treatment of the pulmonary inflammation, it is necessary to determine what rules are to direct the practice of blood-letting, what other indications are necessary, and what are the most efficacious means to be employed against those pneumoniæ, called nervous, bilious, adynamic, ataxic. Although emetics in large doses are not to be considered here as debilitating remedies, I will notwithstanding examine their action; for, according to some persons, it has a decided counter-stimulant effect, and thus compared with the other appropriate means of treatment, it will be easy to form a correct judgment of its advantages or of its dangers.

It has already been demonstrated, that general bleeding has a very powerful local effect on the lungs; it contributes immediately to diminish the irritation which, in pneumonia, is seated in the parenchyma. The intensity of the disease, the period to which it has arrived, the age and sex of the subject, are as many circumstances influencing the treatment.

When pneumonitis is slight, recent, with little fever, but difficulty of breathing, or acute pain in the chest, ten or twelve ounces of blood from the arm will afford considerable relief, and convalescence will speedily commence. Blood-letting will then have carried away the disease. We might perhaps strictly dispense with it; but its only inconvenience is a small degree of debility, whilst, by abstaining from it, the longer continuance of the symptoms will debilitate the patient still more, and expose him to the still greater mischief of disorganization of the viscus, or of the disease assuming the chronic state.

When the inflammation is more violent, the necessity of bleeding is more pressing. Two circumstances may then present themselves; the patient may have a large, hard, and full pulse, and the skin may be warm and turgescent, or he may be weakened, threatened with suffocation, and his pulse small, deep, and almost insensible. In the first case, bleeding from the veins is urgently called for, and it must be in the

quantity of twelve or eighteen ounces, taken suddenly, and from a large opening, in such a manner that the lungs may be rapidly freed from a large portion of the blood contained in them.

Experience has not confirmed, at least in this country, the dangers which Ouarin and Hildebrand have attributed to the syncope following such evacuations. It may be proper, and sometimes prudent to prevent this accident by immediately closing the veins.

The apparent prostration of strength, in acute pneumonitis, should not deter us from evacuating blood; but we cannot then resort to that measure with as much confidence and energy. I am aware that, in such cases, a large bleeding has succeeded in suddenly removing the prostration, orthopnea, and elevating the pulse as well as all the organic actions; but I am convinced that, in many other instances, this practice has increased the prostration, prevented a reaction, and proved injurious.

When a violent and extensive inflammation of the lungs has occasioned a sympathetic disorder in all the vital actions, and when the heart, under the pressure of pain, moves with difficulty, it cannot be doubted, but that a too sudden abstraction of blood will maintain the prostration of strength, and produce an unfavourable result. It is then necessary, and this precept is of the highest importance in practice, to resort only to a sort of exploratory bleeding, by making a small opening in the vein, and attentively examining the effect of the evacuation. Sometimes, as the blood flows, the patient finds himself relieved, the pulse rises, becomes stronger, and the respiration more free. With this admonition, the practitioner must persist, and substitute copious bleeding for that which he did not at first intend to carry further than a few ounces. When the evacuation does not produce that salutary result, and when the prostration continues, six or eight ounces will be sufficient, observing the ultimate effects. If, after a few hours, the pulse becoming stronger and larger, announces the rising of vital action, then bleeding may be repeated: and it is not uncommon to observe the letting of blood, continuing

in its salutary effect, restore the disease gradually to its congenial state of simplicity, and effect a speedy cure.

These symptoms of pneumonitis, notwithstanding, are very serious, especially when they occur in subjects exhausted by fatigue, excess, or antecedent diseases. Should, then, the prostration of strength be great, the anxiety extreme, and the muscles trembling, we are to confine ourselves to local capillary evacuations, and afterwards to revulsives. Phlebotomy is afterwards practicable only when the pulse has risen and acquired some vigour.

Pneumoniæ, even the least complicated, are frequently accompanied with pleuritis, and a violent pain in the side, which is increased by coughing, and renders breathing laborious. In these cases, it becomes necessary, after one or two general bleedings, when pain in the lungs and pleura exist, to cover the corresponding region with leeches. This practice, sanctioned by experience, is followed by the most favourable results. N. Lerminier, who has adopted it, sometimes applied leeches before the vein is closed, in order that capillary evacuation may corroborate the action of the general bleeding.

The state of respiration, more than that of the pulse, indicates the necessity to bleed. A difficult breathing, accompanied with a crepitating and rattling noise in the throat, urgently calls for evacuations of blood, which must be made in the manner and with the precaution already indicated. The benefit derived from bleeding will be in proportion to the velocity with which the blood flows, and to the thickness of the buffy coat. This remark of Sydenham and Hildebrand is confirmed by daily experience. After the first evacuation, the relief it had procured will be followed in a few hours by the recurrence of the irritation, of the congestion, and of the symptoms which it had before subdued. But the violence of the disease grows less and less, and bleeding is to be again resorted to. The inflammation generally returns several times in this manner, with less intensity, until it disappears altogether under this treatment.*

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* Inflammation in the lungs is one of the most serious affections of the

Young children, as well as old people, afford no exception to the necessity of bleeding in acute pneumonitis. In those cases of inflammation of the lungs, so frequently occurring in rubeola, in consequence of the abuse of heat in their treat-

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kind that can occur, if we consider its decided influence in producing consequent disorders, which are the more to be dreaded as they are totally beyond the reach of therapeutical agents.

Blood-letting is undoubtedly the most powerful means we possess of putting an effectual check to its progress; but that mode in which that remedy is to be employed to the greatest advantage, may yet be a proper subject of meditation, considering the importance of the disease.

The state of protracted debility which is apt to follow the long employment of appropriate remedies, as well as the absolute abstinence which it is so imperiously necessary to insist upon for a long period, constitute circumstances which, added to a long and difficult convalescence, are uncommonly favourable to the formation of tubercles or of abscesses.

If my judgment does not deceive me, I have observed that, in inflammations of the lungs, full and vigorous bleeding carried to such extent as to leave hardly any more strength than is necessary to the support of life, is much to be preferred to ordinary, though frequently repeated evacuations. As far as my experience has enabled me to judge of the expediency of that treatment, I think that, whenever any of the consequences to which I have just alluded take place, the worst that will occur has been uniformly abscesses, when the vigorous treatment I mention had been resorted to, and tubercles, when evacuations had not been more abundant than in other inflammations. In the former case, convalescence was shorter than in the latter, although debility appeared as great in the one as in the other. Indeed, it may not be incompatible with our knowledge of the laws of vitality, to suppose that a protracted convalescence is not so much the result of a vigorous and depleting treatment, as of the duration of a disease. Three or four pounds of blood is the quantity I generally draw, and notwithstanding the insignificant and vague caution of authors of consulting the temperament, sex, and other circumstances of the patient in letting blood, which saves them from the difficulty of pronouncing on any exact rule of conduct, and by means of which some practitioners, for the purpose of shielding themselves from the reproach of mal-practice, might perhaps urge the existence of such circumstances as excluded the possibility of bleeding at all; notwithstanding those circumstances, I say, I have seldom drawn less than three pounds of blood at a time. Perhaps this may be referred to the strong constitutions of the inhabitants of the northern climates of America; but I may say that in those subjects which evinced that peculiarly strong constitution, the quantity was greater.

ment, Sydenham considered bleeding from the arms as necessary, even in tender infants. He sometimes repeated the operation which, according to him, may be practised with as much safety a few months after birth as in adults. This conduct is that which the most judicious physicians of the present day have adopted, substituting, however, during the first years of infancy, leeches applied to the thorax, and to the opening of veins, whenever the disease is not violent. Until the veins are fairly developed, it is somewhat difficult to obtain a sufficient quantity of blood from their opening; leeches, therefore, applied in sufficient number will draw as much blood, and the effect will extend to the lungs with as much rapidity, owing to the delicacy of their constitution.

With regard to old people, J. P. Franck bled nine times with success a man 80 years old affected with pneumonia.—Old people will bear a greater loss of blood in this disease than in any other. A long experience has established the nenessity of an energetic treatment at the commencement as well as towards the end, of inflammations of the lungs. This course will be as successful in old people as in adults, provided the lungs are not already the seat of some chronic inflammations of long standing.

Pringle, one of the most celebrated practioners of the last century, had established that after the fifth or sixth day at the latest, bleeding is dangerous, and ought to be banished from the treatment. This assertion was echoed by a number of practitioners, and became a sort of axiom, the authority of which stood a long time uncontradicted. But after a mature examination of all the circumstances of the disease, the max-

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I say again, if my judgment has not been incorrect, with repect to the variety of termination which I have observed in the varieties of inflammations of the lungs, in consequence of a difference in the quantity of blood taken from the system, I would confidently recommended further trials, for the purpose of ascertaining how far this may be sanctioned by other observations.—*Trans.*

im of the English physician was gradually neglected. There is perhaps no practitioner at the present day who, in the employment of bleeding, does not rather consult the state of the pulse and of respiration than the age of the disease. It cannot be denied, however, that, after the first six or eight days, a resolution of the inflammation is more difficult to be obtained, and evacuations of blood must be more moderate, and less powerful than at the invasion of the disease. But they will prove beneficial at all periods, whenever they are called for by the state of the irritation. In medical practice, an attentive observation of the symptoms is always to be substituted for those arbitrary rules, more dangerous than useful, which were originally founded on the hypothetical reasoning of the critical days.

It is proper to mention here other debilitating agents which are to be added to the employment of local and general blood-letting.

Mucilaginous and gummy lenient drinks, when administered lukewarm, are the most efficacious means of subduing the accidents generally attendant on pneumonia. Decoctions of marsh-mallows, solutions of gum, properly made sweet, and syrups composed of the same substances, should be made the ordinary drink of the patient. An absolute diet, and abstinence of the lightest broths, are indispensable, especially during the first days, and when the disease is in all its vigour.—As the irritation subsides, the patient may be indulged some light nourishing substances, as the yelk of eggs diluted in water, chicken broth, &c. until convalescence being confirmed, he may be allowed some more nourishing food.

Emollient fomentations on the chest, but particularly on the region affected, and inhaling vapours of the same nature, should never be neglected in acute pneumonia. In irritable habits, it will be proper to add one or two white poppies to the linseed and marsh-mallows which are to compose the liquid and the fomentations, thereby producing a narcotic effect calculated to allay the nervous susceptibility. Two ounces of the dried leaves of morel, and four buds of poppies, boiled in two pounds of water, produce a similar but rather more

narcotic decoction, which in some cases, is more beneficial than the former composition.

In the course of pneumonia, two symptoms are to be strictly attended to, cough and expectoration. The former, which is often so frequent, and accompanied with a painful sense of laceration internally, is generally allayed by the means already enumerated. When, however, it persists in annoying the patient, and contributes by continual retchings in keeping up, and even increasing the pulmonary irritation, it will be relieved by potions composed of gum arabic, anodyne syrup, and some pectoral infusion. A looch made of twenty grains of gum adragant; syrup, one ounce; oil of sweet almonds, two drachms; aq. flor. aurantium, two ounces, mixed with four ounces of an emulsion composed of fifteen sweet almonds and half an ounce or an ounce of the syrup of poppies, will then be found highly beneficial. We should not, however, resort too soon to those measures, nor place too much reliance on them: prudence should always bring to mind that in pneumonia, the cough is the effect of the irritation, and we cannot expect to allay the former before the latter is subdued.

These reflections are applicable, in every respect, to expectorants. None should be given but those which have a tendency to appease and subdue the irritation, others would stimulate the mucous membrane, and turn to benefit the disease and not the patient. All pretended expectorants should never be used during the first stages of inflammation, and even at more remote periods in its course, owing to their irritating property. The circumstances in which they are proper will be pointed out hereafter.

The most important but easiest question to solve at present is, whether the principles hitherto laid down are adapted to the treatment of those acute pneumonitis qualified by the name of nervous, adynamic, bilious, atonic, &c.

There are subjects in whom the slightest, as well as the most violent diseases, determine a more or less considerable degree of excitement of the nervous system, thereby occasioning unusual accidents in the parts affected, in the brain or any

other organ abundantly supplied with nerves. Pneumoniæ thus complicated have been, by some, designated by the name of nervous pneumonitis. It will readily be seen that, by subduing irritation in the chest, the sympathetic nervous disorders to which it gives rise, will secondarily disappear. When the latter are very intense, it may perhaps become necessary to add, to antiphlogistics and depletion, such secondary measures as will diminish the susceptibility and stimulation of the nerves.

A very important organ, the stomach, participates in many cases of pulmonary inflammations. This complication of pneumonia with gastritis or gastro-enteritis constitutes one of the most dangerous diseases to which the human species is liable. The physician must then attempt to discover which of the two inflammations is primitive, and has given rise to the other. Bilious pneumonia, or that which is complicated with gastritis, requires, on the one hand, the means indicated above, on the other, those debilitating medications applicable to the digestive canal. It is proper to insist on especially directing the treatment of that which is the most violent, and appears to exercise a control over the others.—It should be remembered that, in some constitutions, the symptoms of pneumonitis are almost illusory, and being the sympathetic product of gastritis, they disappear with it.

Should those nervous symptoms be carried far, or should gastro-enteritis complicate the disease and excite the sympathies, both these cases will constitute what some have called ataxic pneumonia. Such circumstances are necessary to be known; in the former, encephalitis is directly brought on by the inflammation on the lungs; in the latter, the irritation of the stomach and intestines serves as a medinm between the other two. In the first of those complications we are to attend to the pneumonitis, previous to the nervous symptoms; in the other, we are to disseminate debilitating medications over the head, lungs, and abdomen.

Pneumonia, as well as gastritis, and other inflammations of the viscera, lead to adynamy. The lungs undoubtedly act with less vivacity on the nervous system by means of sympa-

thies, and draw to themselves the vital actions with less energy than the stomach; but experience shows that their violent and extensive inflammations may bring on the most complete prostration of organic strength. The obstacle to the circulation resulting from the obstruction or hepatization of their parenchyma, tends in a great measure to induce that state of adynamy. This sort of complication is highly dangerous, and calls for local antiphlogistics and revulsives, which will be examined hereafter.

The practitioner must carefully distinguish the species of adynamy which might be called pulmonary, from that arising from a complication of pneumonia with gastritis or gastro-enteritis. In the former, the digestive canal being free from disease can admit of stimulants, which it is often necessary to employ as revulsives; in the latter, the abdomen requires the same treatment as the lungs.

I cannot conclude this article without insisting on the indispensable necessity of pursuing an antiphlogistic course of treatment, until the local symptoms of pneumonia have entirely disappeared. In order to detect the last traces of irritation, the stethoscope affords a precious means with the use of which physicians cannot be too familiar. As long as this instrument indicates obstructions and inflammation, we are to insist on a severe regimen, emollient applications, small evacuations of blood, and mucilaginous gummy drinks. Some revulsives, as will be seen hereafter, should be had recourse to in order to promote a resolutive process of the irritation; but practitioners cannot guard too strictly against those myriads of irritants in the abuse of which our predecessors have so much indulged. They should also be warned against imperfect convalescence, and against the imprudence of patients resuming too soon their occupations. Pulmonary affections may be followed with such dangerous consequences, the irritation becomes so easily inveterate, and gives rise to such extensive disorganizations, that we cannot be too careful in curing them completely before the patient is allowed to return to his usual labour. We may assert that out of ten patients who leave the hospital with some cough and expectoration,

however inconsiderable, eight or nine will one day return with incurable symptoms of phthisis.

The history of the treatment of pneumonia would not be complete, if I did not add some remarks on the use of large doses of emetic, which is considered by some as a direct debilitant.

The new Italian doctrine appears to have been invented with the view of confounding empiricism, conciliating the therapeutics of the ancients with the theory of modern times, and consecrating the following aphorism as a paradox: *similia similibus curantur.* Such is the language of a young enthusiastic partisan of counter-stimulation, which he has put forth in the name of one of the professors of clinical medicine, in the Faculty of Medicine of Paris. He passes the highest encomium on the success of emetics in acute peripneumony.*

M. Rasori places on the same footing blood-letting, and the most energetic stimulants, and considers the latter as a good substitute for the former, which may sometimes be dispensed with in their employment. His most favourite remedy is tartarized antimony. When the disease is mild, he confines himself to that remedy, but when it is more violent, he begins by bleeding, which according to him, takes away part of the stimulus, renders the constitution more susceptible of the impression of the specific, and enables the physician to give it in larger doses. Some persons think that the Italian professor treats pneumonia with emetics alone. This opinion, however, is erroneous; for he frequently has recourse to blood-letting, and in several of the observations he has published, that operation was performed five, eight, twelve, and even sixteen times in a few days, without, however, discontinuing his favourite medicine. The violence of

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* Observations on the use of large emetic doses as a curative means, collected at the clinical practise of the Hopital de la Charité, and published under the authority of Professor Laennec, par V. Delagarde.—*Archives generales de Medecine*, t. IV.)

the disease, the force of the reaction, and what he calls the quantity of stimulant diathesis in the patient, are the circumstances which influence his treatment. Blisters to the thorax or to any other part of the body, emollient fomentations on the chest, as well as mucilaginous and gummy drinks so proper to allay the cough, are the only remedies which he rejects without exception or appeal, as being merely calculated to occasion a loss of time prejudicial to the patient. A solution of tartarised antimony, is the only drink and remedy he prescribes.

His mode of administering emetic is very simple. He dissolves the remedy into two pounds of barley water, or any other diluent drink, and gives the whole in the space of twelve hours by small, repeated doses. At the beginning of the disease, he generally prescribes twelve or twenty grains of tartar emetic, increasing the dose as the disease advances, to twenty-four, thirty-six, seventy-two, and sometimes ninety-six grains, in 24 hours. He has gone so far as to give one ounce of emetic tartar with two drachms of kermes mineral in the course of a disease which lasted a fortnight. Far from excluding blood-letting, this operation was added to the above remedies, and in the course of the first nine days, two hundred ounces of blood were drawn by repeated bleedings.

Some physicians have daringly imitated this practice. Dr. Péchier, in Switzerland; Dr. Wolf, in Poland; in France, MM. Fontaneille, Kapeler, Honor, Laennec, Vaidy, and others, have become partisans of the Italian reformer. They, however, employ emetic in a moderate dose, which seldom exceeds six, eight, ten, twelve, or fifteen grains. M. Laennec often dissolves the dose into two or three glasses of an infusion of the leaves of the orange-tree, strongly edulcorated, half a glass of which is given every two hours; but he suppresses the remedy during the night, and differs in this particular with the professor of Milan, except in very urgent cases. Should the emetic be rejected by the stomach, M. Laennec adds one ounce of the syrup of poppies. M. Vaidy gives a spoonful every hour of a solution of the emetic in six ounces of a gummy drink.

Such are the formulæ and the manner in which high doses of tartar emetic are generally administered for the use of pulmonary inflammations. Their effects are variable. M. Rasori has generally observed, however, that if the remedy should at first occasion nausea, vomiting, and alvine evacuations, these effects will soon disappear under its continuance. In some of his patients, twenty-four or thirty six grains in twenty-four hours produced no passage through the bowels. The redactor of M. Laennec's observations says that the first doses will generally occasion either vomiting or purging : but he recommends perseverance, for it frequently happens that the second, third, or fourth dose will check them ; finally, when the vomiting or purging is not too evident and excessive, tolerance will soon be established, and the remedy increased and even doubled, without producing evacuations. In the Rasorian language, *tolerance* signifies the disposition in the living organism of undergoing the operation of the emetic without producing either vomiting or purging.

If we credit the assertion of M. Rasori or of his sectarians, tartar emetic speedily cures pneumonia, without exposing the patient to any danger. It is a sort of specific in that disease. It appears, however, from a statement published by the Italian professor himself that the proportion of deaths from that disease has been, out of a hundred, of $22\frac{9}{16}\frac{0}{3}$ at the civil hospital of Milan, and of $14\frac{4}{3}$ at the military hospital, that is to say, 1 out of $4\frac{1}{2}$ in the former, and 1 out of 7 in the latter, proportions which do not appear uncommonly happy.*

We must regret that the partisans of this doctrine in France have not published such general reports of the results of the counter-stimulant doctrine, which would, undoubtedly, prove much more unfavourable than a direct and well directed anti-phlogistic method.

The administration of such high doses of emetic, and their continuance notwithstanding the symptoms they produce, require uncommon courage, or rather a temerity which keeps

* Delle peripneumonie, e del curarle principalmente col tartrato stibiato.

no account of the morbid phenomena, nor of the diseases which they characterize. Some facts will prove the assertion.

A man of weak habit, aged forty-six years, is seized with somewhat violent pneumonia. After drawing eight ounces of blood, the fever is diminished; the tongue red at its edges, white in the center; thirst and bitterness in the mouth, accompany those symptoms.—*Eight ounces of blood are again drawn: six grains of tartar emetic; pectoral drink.* This prescription is followed by prostration, debility, continuance of the fever, bloody expectoration, dryness and red, yellowish colour of the lips; tongue continues of a placid red, purging during the night.—*Tartar emetic, six grains, with one ounce of syrup of poppies.* This prescription is repeated the next day, when the following symptoms appear: greater debility, anxiety, expectoration abundant and viscous; no evacuation. *The emetic is continued.* This day, the patient exhibits the following appearances: extreme debility, face pale, nose sharp, frequent cough, difficult expectoration, pulse small and weak, skin covered with somewhat cold perspiration. Notwithstanding these symptoms, *twelve grains of emetic are prescribed; and blister on the right side.* The face now becomes hippocratic, the skin is covered with a viscous fluid, respiration cavernous in all the posterior and middle part of the right side of the thorax, the tongue is red at its edges and somewhat dry.—*Twelve grains of tartar emetic.* The next day, debility somewhat less; the prescription is continued and the patient seems to improve. He recovers gradually, under the continuance of the remedy, and leaves the hospital after the lapse of forty-eight days, having regained his strength and a little flesh; that is, without having altogether recovered his health.

Such are the facts related, and such the treatment presented to the pupil as examples to follow. It is evident that the subject in this case would, probably, have been cured more speedily and without so much risk for his life, by persevering in the evacuations of blood and lenient drinks, which had at first procured him relief. When the patient has arrived to

the last stage of debility, having a hippocratic face, the surface of the body cold and covered with a viscous sweat, does not the mind revolt at the idea of pursuing the course which has reduced him to that condition? And if relief be obtained, can we not felicitate the person who has thus escaped the twofold murderous influence of inflammation and of emetic? The following observation is not less curious.

A man aged aged sixty-one was enjoying good health, when he inhaled the iritating vapour arising from a piece of silver in fusion. He was immediately seized with giddiness, heaviness in the head, and afterwards with nausea and general uneasiness. The patient takes three glasses of wine which produce efforts to vomit, pain at the epigastrium, extreme uneasiness. Three days after the accident he is admitted into the hospital. The abdomen was hard, the epigastrium painful, especially on pressure, tongue red and tending to dryness; frequent alvine evacuations of a green colour. To these symptoms were added those of a light pneumonia of the right side.—Venesectio, ʒviij. Aq. hordei. c. saccharo. Aq. gommosa ad potum. General prostration, delirium, respiration more frequent, dry and rough tongue, purging, increased symptoms of pneumonia. Vulgar practitioners, enslaved by doctrines universally adopted, would have then enforced the antiphlogistic regimen, and applied leeches to the epigastrium, fomentations to the abdomen or chest, and one or two blisters to the legs. The professor, on the contrary, prescribes the following treatment;—Repetatur venesectio; Antim. Tart. grs. vj. cum syr. papav. ʒ j; Potus gommosus; Aq. hordei cum saccharo. At four o'clock in the evening, general debility increased; involuntary evacuations of fæces, comatose delirium. Blisters are then applied to the thighs, and the patient is prevented from taking one grain of emetic which had been prepared for him. The next day, alvine evacuations are less abundant, delirium has subsided, thirst still intense, but the tongue appears soft, less dry and red; abdomen yet swollen, but more pliant and not painful. The indication was then evident; nature, in exhibiting the effect of the remedies, seemed to point out to the physician what

course he should pursue. Notwithstanding these admonitions, the following remedies are ordered .—Emetic, grs. vj. &c.; Potus gomm.; Aq. hordei cum saccharo. At four o'clock, consequently a few hours after giving the remedy, pulse small, frequent; tongue moist, somewhat fuliginous; thirst intense; abdomen painful at the epigastrium; no vomiting nor purging. A blister is applied to the chest; but the next day the epigastrium always painful; the pulse hardly perceptible, tongue pale and moist. Death in the morning. On opening the body, independent of the traces of inflammation in the lungs, the stomach was slightly inflamed about the pylorus, as well as the lower part of the jejunum.

To the above cases, I must be allowed to add the following.

A woman, sixty-two years old, affected with peripneumony in the right side, is admitted at the Hospital-Necker. The debility and smallness of the pulse repel the idea of bleeding. Fifteen grains of tart. emet. are prescribed, diluted into five glasses of decoction of bark. After a few days of this treatment, the redness of the tongue, and the pain at the epigastrium increase. Instead of the emetic, six grains of *sul. ant.* are given, and the next day twelve grains. An abundant diarrhœa compelled them also to abandon this remedy. The patient, however, they said, appeared to improve, when she suddenly died after a copious meal taken furtively.

I attach some importance to relating these facts, in order to oppose them to those who maintain that large doses of emetic tartar can be given with safety. The partisans of this method pretend to be founded on successful results; but what method has been entirely void of success? On the other hand, they generally combine, in the most urgent cases, both bleeding and emetic, and it remains to decide which of the two has performed the cure. Who can say that evacuations of blood are not sufficient to counterbalance the baneful effects of the emetic. In a word, we have just seen to what dangers this remedy exposes the patient, before it can effect a cure. M. Delagarde himself also observes that, when emetic

tartar is administered, the inflammation does not the less run through its periods, and that the patient, rescued from the most imminent danger, is again brought to life by a sort of miracle.*

Let us compare the effects of that method, wherein the patient is incessantly agitated by the remedy, and placed between the danger of poisoning and that of exacerbation of the disease, with those of a direct antiphlogistic treatment. If we may credit ocular witnesses, M. Rasori cannot present a report of cases favourable to his doctrine, but by reckoning as pneumonitis all the cases of cough and pain in the chest, however slight, which may have presented themselves to him in his clinical practice, and as cases of phthisis all those acute inflammations which, under the emetic treatment, have proved obstinate, and passed to the chronic state.†

It is evident that by thus including the slightest cases, and expelling the most severe and obstinate, the proportion of cures will be considerably increased. Again, in the return of deaths occurring in his wards, M. Rasori forms a separate class of dying patients (egonissants,) in the proportion of sixty-five out of thirteen hundred and two. It is possible that, in this category, some very severe cases of pneumonia might be found, which, not being able to undergo the first attempts at treatment, must have perished soon after their entry into the hospital. By the ordinary mode of treatment, the proportion of deaths is never greater than appears in the return of M. Rasori; but we might note a much more successful practice. The learned and respectable Hillebrand, for instance, announces that in the clinical practice at Vienna, where he prosecutes the practice De Haen, Stoll, Reinlein, and J. P. Franck, he has only lost one patient out of twenty, affected with pneumonitis, and that all the others had but a short convalescence.‡

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* Vide the work already quoted, page 514.

† Reflexions critiques sur le tableau de la mortalité du grand hopital de Milan, comparée â cellee de la clinique de Rasori, par le Dr. J. Strambio.

‡ Ratio medendi in schola practica Vindobonensi, t. I. translated into

It is evident, therefore, that the partisans of large doses of emetic, in the treatment of peripneumony have exaggerated the innocuous as well as the successful effects of the remedy. M. Sauthier, who has carefully followed the practice of professor Borda, at the bed-side of the sick, asserts that his methods seldom successful,* and that it exposes the patient to imminent dangers. The same physician asserts that the employment of large doses of emetic tartar is generally followed with vomiting, which is, for the most, injurious in pulmonary inflammations, with considerable purging, or intense gastro-intestinal irritations. In two of the cases related by M. Vaidy, the remedy produced effects similar to those which might be expected to follow the administration of a *vomi-purgative.*† Its action is neither safer nor more rational than the operation of that poison. M. Rasori thinks that emetic directly lessens stimulation; M. Laennec asserts that it invigorates the absorbing system; M. Vaidy believes its influence extends directly to the circulation of the blood, restoring its harmony, and subduing the febrile excitement.— None of these hypotheses can stand the test of attentive inquiry, nor are they founded on judicious observations. They are all in contradiction to the experiments made on living animals, which proves that tartar emetic, whilst it stimulates and tends to inflame the mucous coat of the alimentary canal, from the cardia to the orifice of the rectum, irritates the nervous system, and produces obstructions and inflammations in the lungs, of a more or less considerable extent.‡ This remedy acts especially as a revulsive in the treatment of pneumonia, and we will have occasion to elucidate this truth, when

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French by M. Gauthier, under the title of Médecine Pratique, Paris, 1824, 2 vols. 8vo.

* Observations recueilles a l'Hopital de Pavie, Nouveau Journal de Médecine, t. IXV.

† Journal complémentaire du Dictionnaire des sciences medicales, t. XV.

‡ De l'influence de l'emetique sur l'homme et les animaux, Paris, 1813, 8vo.

treating of the revulsions produced on the gastro-intestinal system.

It follows from the above discussions, that the most simple, rational, and efficacious mode of treating pneumonia, consists in the employment of general and local blood-letting; in the administration of sweet, mucilaginous, gummy, and other similar drinks; in the simultaneous application of emollient fomentations to the chest, and in the means calculated to subdue all the symptoms which may complicate the disease. Tartar emetic in large doses, exposes the patient to chances which are nearly all against him; and it places him in a perilous situation which it would be cruel in the physician not to avert, when it is in his power to effect a more safe and speedy cure by other means.

The principles above mentioned, the utility of which is founded on experience, are entirely applicable to the treatment of hemoptysis, an affection which is always attended with some irritation in the lungs, whenever the blood does not proceed from some large blood-vessel corroded or ruptured. Bronchial hemorrhages especially require more abundant evacuations than appear proportionate to their violence to the strength of the patient, and to the quantity of blood already lost by the hemorrhage.

Cold applications to the chest are seldom proper in irritations of the viscera contained within it, owing to their effect in propelling and accumulating the blood in the interior, and consequently in the organs already affected. It has, however, been had recourse to in hemoptysis, but with different results. Ice applied to the chest, in that disease, is too powerful, and may displace the hemorrhage, but will give rise to a violent pneumonia, and especially to a fatal pleurisy.

We cannot, therefore, resort to it, except in the last extremity, taking care to suppress it as soon as it appears to increase the cough instead of relieving it. Cold drinks are infinitely more proper; it will be seen hereafter that they contribute powerfully to lessen the over-activity of the circulation. It would not, however, be proper to resort to them against hemoptysis before having, by previous evacuations

of blood, prevented the irritation they might produce on the lungs.

The precepts laid down for the treatment of pulmonary inflammations, are equally applicable to acute pleurisy. The pleura forms, as it were, part of the parenchyma which it covers, and of the irritations of which it frequently participates. The treatment of pleurisy, however, requires two great modifications, in the employment of bleeding; the first is that the quantity and frequency of the evacuation are not as necessary as in pneumonia; the second relates to the use of leeches which, owing to the situation of the pleura, and to its close connexion with the thoracic parietes, will operate more immediately and efficaciously on that membrane than on the lungs themselves. Thus, after one or two general bleedings intended to relieve the respiratory organs, and to diminish the rapidity of the passage of blood through them, a considerable number of leeches, applied to the region of the pain, will produce very speedy relief. Mucilaginous and gummy drinks, emollient fomentations, cataplasms of the same nature to the affected part, and other similar means, should be resorted to at the same time.

I will conclude these considerations by a most important practical observation. In all thoracic inflammations, the treatment should be persisted in until all the symptoms have entirely subsided. The patient is never to resume his occupation before the pulse, respiration, percussion, and the stethoscope, announce the complete return of health. Unlike all the other parts of the body, irritations of the organs of respiration will be renewed, or become chronic, whenever the convalescence is not altogether complete. These organs are the most active of the whole; muscular exercise, irregularity in diet, atmospheric variations; indeed all impressions are strongly felt by them, and tend to exasperate and perpetuate irritations imperfectly destroyed, and to produce the most extensive disorganizations. He may be called extremely fortunate who escapes all these causes of destruction. A complete state of health, and an unlimited energy of all the vital actions, are conditions without which convalescents, after dis-

eases of the lungs, will seldom be preserved against consecutive affections, which always prove more obstinate and more dangerous than the primitive complaints.

Of the treatment of chronic inflammations in the organs of respiration.—With respect to chronic diseases of the lungs, pathology is far ahead of therapeutics. The art, otherwise so difficult, of ascertaining the different kinds of pulmonary affections, has been much more improved than the more important science of curing them. By means of the most scrutinous examination, and of ingenious processes and instruments, we are enabled to ascertain, during life, the slightest pulmonary affections; after death, pathology describes, with uncommon accuracy and minuteness, all the details of the physical disorders of the affected tissues. But from the time that the diagnostic is established to that of a post mortem examination, what part does the physician perform? We may consult the most eminent writers amongst the ancients and the moderns; we may unfold clinical reports, but what else can we find but details of pathological anatomy? It would seem that the professor had removed his chair into the dissecting room.

It is far from my intention to attempt to depreciate researches which have laid the foundation to the present improved state of medicine. My only wish is, that therapeutics should be more seriously attended to by some physicians, and that, somewhat distracted from their anatomical pursuits, they should apply themselves to the art of curing diseases which they have otherwise so beautifully described.

But if medicine is so little efficacious in the treatment of phthisis, it has at least acquired the important knowledge of the means of putting a check to their developement; and, in this respect, it will confer a valuable benefit on humanity, if it can only lessen the number of victims which are daily sacrificed to chronic inflammations in the chest.

In order to attain this end, the first step should consist, as we have already said, in a proper treatment of all acute inflammations of the thoracic viscera, and in our perseverance

in antiphlogistics and revulsives until the entire disappeara nc in all the symptoms. It should not be forgotten that persons constitutionally predisposed to pulmonary affections, have not, as the vulgar pretend, their lungs weak, but merely sensible and irritable beyond what is requisite for the normal exercise of their functions. The most effectual mode of preventing the rise of phthisical complaints, consists in attending to the following directions: avoiding an over-exercise of the lungs, keeping from exposure to cold; wearing a woollen dress over the chest close to the skin; observing a light, although nourishing diet; taking gentle exercise; in a word, removing all direct stimulations from the lungs, as well as all excitations capable of reaching them, whilst carefully attending to calling towards less important organs all energetic vital actions.*

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* After what I have already said on the subject of blood-letting in these complaints, it will not be necessary that I should offer any farther remarks at present, for the purpose of calling the attention of the profession to that subject. My own experience in chronic inflammation of the lungs, without the existence of tubercles or abscesses, has been very limited; and I believe very few practitioners have ever observed many such cases, because it would appear that the period of the chronic termination of inflammation in all other organs, is very nearly that at which the formation of tubercles, &c. most commonly takes place. Should this prove correct, I believe blood-letting and other direct debilitants will be found useless, if not injurious, in this stage of the disease, which may then be pronounced incurable.

Notwithstanding the extensive improvements lately made in the healing art, it is yet a question whether the palliative and almost negative treatment of the ancients in this incipient stage of phthisis, is not yet preferable to all the active and destructive measures recommended and adopted in modern times. Quinine has even been prescribed by some, and it has come to my knowledge, that a physician tried, and persisted in the use of this remedy on himself, until his entire dissolution, which of course, speedily occurred under such treatment.

Of all the various methods which have been recommended for the cure of phthisis, I must say that none seem to be entitled to as much consideration as that of Sir A. Crighton, which consists in the employment of tar vapour, although that gentleman has, no doubt, exaggerated its beneficia effects.

In the first stage of phthisical compl aints, active debilitants are indispensable. In bronchitis accompanied with constant and painful cough, frequency of the pulse and difficult expectoration, we are to resort to emollient topics to the chest, general bleeding, when the patient is strong, and leeches to the anterior inferior part of the trachea, or below the clavicles, when he is debilitated. The vapour arising from warm water, that of emollient decoctions mixed with the atmosphere, are frequently useful, whatever M. Broussais may have said to the contrary. This practitioner asserts that vapours can only swell the mucous membrane of the bronchiæ, and increase the sense of fulness and of compression experienced by the patient;* but facts militate against this assertion. It is undoubtedly improper to impregnate the air with emollient vapour, where the membrane is flaccid, turgescent, filled with mucus, and where the expectoration is abundant. This measure would then prove useless and even injurious; but the case is different in irritable subjects, where the expecto-

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In my anxiety to afford some relief in a disease which had heretofore baffled all the resources of therapeutics, I determined to give a trial to this new method, and the result of my experience has been what I had at first anticipated. In all cases of confirmed phthisis, I mean, whenever some disorganizing process has already commenced in the parenchyma of the lungs, tar vapour has afforded some very inconsiderable and momentary relief, where the fever was neither high nor continued, and where the patient was of an obtuse sensibility, and it has rather been injurious wherever the reverse condition existed. But in cases of abscesses, and particularly in vomica, by which I mean a circumscribed isolated abscess, it has proved highly serviceable. We all know that these diseases are susceptible of a spontaneous cure; but I have no doubt that in these cases, and generally where the morbific process is confined to the bronchial ramifications, this method will be the means of averting a termination which would otherwise prove fatal.

In a memoir which I had the honour of presenting to the Medical Society of Quebec last year, on this subject, I related a very remarkable case of recovery by that method, where the disease was so far advanced, that the patient would most indubitably have perished without that remedy.

* Histoire des Phlegmasies chroniques, t. I, 3d edition.

ration is difficult, the cough dry and painful, the mucous membrane dry and the seat of that peculiar sensation in the throat which induces coughing. In these circumstances, experience has established the beneficial effects of a lenient calming topic. Gummy and mucilaginous drinks are also indicated, as they tend to diminish the violent irritation of the bronchiæ. Should the fever and heat run high, those drinks should be acidulated.

When the parenchyma of the lungs is affected, and when the stethoscope indicates some degree of hepatization, local bleeding is beneficial. This carnification is more frequently observable at the superior than at the middle or lower portion of the lungs; and observation has proved that leeches applied to the corresponding region, will frequently be sufficient to cause the absorption of the extravasated liquids, and restore the thorax to that healthy condition when it gives a clear sound, and that tremulous respiratory noise announcing the permeability of the air cells.

An attentive observation, aided by sound physiology, alone teaches to proportion evacuations of blood to the strength of the patient, to his degree of susceptibility and to the obstinacy of the disease. No rule can ever be substituted for that inward sentiment originating and progressing in the physician, from the comparison of analogous cases, and from his habit of appreciating with exactness the effects of remedies. But clinical practice enables us to say that antiphlogistics and local bleeding, applied to the treatment of chronic irritations in the chest, in young irritable subjects, the strength being little impaired, have proved to be the most successful means of cure. We are to persevere in that treatment until the frequency of the pulse is diminished, as well as the dyspnœa, expectoration, pain and cough, thereby indicating that the irritation has begun to subside. This is the period at which revulsives are called for.

In chronic catarrhs and pneumonia, external heat is the most powerful irritative agent we possess. It should be carefully maintained by the patient inhabiting a warm place, wearing warm woollen clothes. Rest and absolute silence are

necessary to prevent the exercise of the respiratory organs. Emollient fomentations or cataplasms applied to the chest, are also very serviceable; and such is the extent of the relief they afford, that they cannot be too long persevered in.

Chronic pleurisy requires the same treatment. Local bleedings are particularly efficacious in this disease. We ought to commence with making use of leeches, if the pain is intense, the fever high, and the dyspnœa considerable; but at a later period we are to give the preference to scarification and cupping, which draw less blood, but stimulate the skin more powerfully. A local debilitating method is also indicated here, as long as the irritation continues, and gives rise to important local and sympathetic phenomena.

It is, however, indispensable, in the cases under consideration, not to make too free a use of blood-letting and leeches, nor to debilitate the vital actions without urgent necessity, at the time when, disorganization having already taken place, a cure becomes impossible. The constitution of the patient, the age of the disease, the extent of the dead (*tanquam percussi femoris*) sound of the chest, the signs derived from the stethoscope, and above all, the alteration of nutrition, the yellow straw colour of the skin, sufficiently indicate that condition of the disease which baffles all the efforts of art. But the inferences drawn from those phenomena are not so positive as to preclude the utter posibility of cure; and several successful cases might be related, which had been given up as incurable. In all cases, therefore, where we may perceive the least shadow of hope, we are bound to commence a methodical treatment. If the fever is not high, the patient weak, and the symptoms of irritation have disappeared, revulsives are to be immediately had recourse to, combined with local emollient applications. But when the strength is not impaired, and the fever is intense, accompanied with pain, and troublesome, painful cough, then leeches are indicated. Should they cause the morbid phenomena to subside, whilst the vital actions remain the same, we may return to them and persevere in their employment. If, on the contrary, they weaken the vital actions without producing any sensible benefit, they

are to be considered as injurious, and we must have recourse to other means.

It is more generally by a severe diet, or even an absolute abstinence, than by repeated bleedings, that we succeed in allaying the excitation of the pulse, the burning heat in the palms of the hands, and the profuse night sweats, in phthisical patients. Diet can never be too severe; it debilitates much less than the continuance of fever and perspiration; and, as will be seen hereafter, it is one of the most efficacious means we possess against all chronic inflammations.

It not unfrequently happens, that, after having afforded the most flattering hopes, and procured some relief, leeches, like all other means, cease to act favourably, and the inflammation which had diminished in violence and extent in the lapse of a few days, now remains stationary, notwithstanding their continued employment This fact, which I have often observed, is very remarkable; it may be accounted for, 1st, by supposing that the irritation, abandoning with facility the parts which it had last invaded, returns with all its might to those primitively affected; 2d, by the fact, that the means by which the irritation had been called to another place, have been insufficient, or have not been so long persevered in as to maintain it in those parts where it had been artificially drawn. The practitioner must then pursue his treatment with increased vigour, until he has succeeded in eradicating the last traces of irritation. With this view he is to combine revulsives with a continuance of blood-letting.

We also frequently observe in practice, that a chronic pneumonia or pleuritis, threatening the life of the patient, after being checked by antiphlogistics, and on the eve of being cured, will now remain stationary, without its being possible to eradicate it entirely. There are several patients who thus remain with their lungs in a state of hepatization, which affection has almost become altogether local. When these obstructions prove incurable, we must use every possible means of preventing their extension, as well as the recrudescence of the irritation seated in them, and the destruction of the affected tissues. We must here remark, that every return of

the inflammation with a certain degree of violence, leaves behind it a sort of disorganization of greater extent, and approaching nearer to the cancerous or purulent form. In this case it becomes necessary to persevere in the use of local antiphlogistics, of revulsives, and of other means of a similar nature.

The whole of the treatment of chronic inflammations within the chest, is, for the most part, encompassed within the narrow circle of the principles above mentioned. Most of the remedies so much extolled by quackery and ignorance, against those affections, are composed of more or less irritating drugs, which cannot be noted here with propriety, and in the history of which much more is to be destroyed than preserved.

ART. IX. *Case of Poisoning by Sulphuric Acid. By* JAMES STEWART, M.D. of New-York.

ON the 3d of October 1828, I was sent for in haste to visit a child of T. M. of this city, aged about two years. I was informed that about fifteen minutes before my arrival at the house, he had swallowed some *strong undiluted* sulphuric acid, which had been procured for the purpose of cleaning brass. The cup containing the acid was accidentally left within reach of the child, who, mistaking the fluid for water, drank as was supposed, about the quantity of a table-spoonful.

I found him in great torture, throwing out his arms, writhing his body, and constantly changing his posture in vain endeavours to obtain some mitigation of his sufferings. He seized and drank cold water with avidity; but notwithstanding the great quantities he had taken since the accident, his eagerness to obtain it was not in the least diminished. His face, neck, and lips were much swollen; eyes protruded and expressive of great distress: his mouth open, and the tongue and interior of the mouth of a brilliant red, and appeared to be denuded of their covering; the extremities and surface of the

body generally were cold. Vomiting was incessant. The matter ejected consisted principally of mucus in large quantities, of an acid taste, containing small flaky substances of a light brown colour and occasionally tinged with dark colored blood. As the vomiting increased the blood became more abundant, till at length considerable clots were discharged. The pulse was small and rapid; and the breathing quick and laborious, *accompanied with the peculiar sound observed in those labouring under croup.*

This sound I heard distinctly before I entered the apartment in which he was; and it induced me to inquire whether he had previously had any such symptom. I was informed that he had been in good health except a slight disorder of his bowels, and that he had been altogether free from any pulmonary affection, but that this symptom appeared immediately upon his swallowing the sulphuric acid. It was doubtless produced by an inflammation and thickening of the epiglottis and of the upper portion of the larynx. The passage of the acid over them sufficiently accounts for this condition of the parts.

Under circumstances such as these, the nearest remedy is the best. A piece of chalk being at hand, was pulverised and diffused through water, and instantly administered. This was given frequently; and every time, from the constant vomiting, almost immediately returned.

The mucus vomited at this period was largely filled with air, and came from his mouth like bladders, proving beyond a doubt that the chalk had been decomposed by the acid.

When there was no longer any evidence of acidity remaining in the matter vomited, a blister was put over the stomach, and a warm bath and large injections were directed. Magnesia having been procured, was now substituted for the chalk, with directions to give it in as large quantities and as often as possible.

I then left him, but returned in about an hour. He was a little easier, and his skin warmer, the bath having in a measure restored the circulation to its balance. The vomiting was not so incessant nor so violent as it had been; he had, however,

discharged several large clots of blood since my absence.—The magnesia and injections were directed to be continued until copious evacuations should be procured.

In the evening I again saw him in company with Dr. F. T. Ferris, who was requested to visit him in consultation. We found him worse than I had left him in the morning; his respiration was much more hurried and laborious, and seemed now to threaten suffocation if not relieved. The pulse, from its frequency, and from the extreme restlessness of the child, could not be accurately counted. The bowels had been but slightly moved.

Leeches were now applied to the upper part of the larynx, which was followed by almost immediate relief of the breathing. Bleeding was encouraged from the orifices by the application of warmth and moisture, and the medicine continued as before.

At our next visit on the succeeding morning we found him decidedly improved. The leech bites had bled considerably, and the magnesia and injections had procured large evacuations. Respiration being still painful and difficult, with other evidences of inflammation in the larynx and œsophagus, more leeches were applied to the upper part of the throat.—A solution of gum acacia was also directed to be liberally given.

The strictest antiphlogistic treatment was pursued for a few days. Under this course, together with a free use of mucilages, he gradually recovered, and is now in perfect health.

REVIEW.

ART. I. *Memoirs of the American Academy of Arts and Sciences.* Boston, Four Vols. 4to. Vol. I. to the end of the year 1783; printed in 1785. Vol II. Part 1, 1793; Part 2, 1804. Vol. III. 1809. Vol. IV. 1818.

HAVING understood from several of our readers, that the plan commenced in a previous volume, of analyzing the medical papers contained in the transactions of our scientific societies, was considered acceptable as well as useful, we proceed in the investigation. We propose noticing at this time the "Memoirs of the American Academy of Arts and Sciences." A third and concluding review will comprise an account of essays and observations scattered through the remaining works of the same description.

The Academy was incorporated on the 4th of May, 1780. We are not aware that it has issued any publications subsequent to those mentioned above.

The medical papers may be arranged under the heads of the—Theory and Practice of Physic, Surgery, Chemistry and Materia Medica, and Miscellaneous.

The most important paper in the first division is the following—

1. *An Account of the dissection of three persons who died of the Malignant Epidemic that prevailed in Boston in the summer of* 1798. By Isaac Rand and John Warren, M.D. Vol. II. Part 2. p. 131.

The first case was that of a man who died on the sixth day of his illness; and as no application had been made to a physician till the first stage of the disease had expired, the "state of the organs may be considered in a great measure as the natural effects of the disease undisturbed by art."

The lungs were much diseased. They contained an uncommon quantity of dark blood in their vessels, rendering them more dense and less compressible than usual. The posterior part of both lobes was extremely livid, and in the cavities of the thorax was contained extravasated blood, firmly coagulated, amounting probably to eight or ten ounces.

The pericardium contained as much as two or three ounces of blood. The heart was of its usual size, but the coronary veins were so distended with blood, as to exhibit the appearance of a most successful injection.

In the cavity of the abdomen, the part most conspicuously morbid was the liver. It was much inflamed on both its surfaces, and its substance much indurated. The gall bladder was greatly contracted, and contained not more than a quarter of an ounce of a thick, glutinous, and inspissated substance resembling pitch. None, however, of the neighbouring parts were in the least tinged with it. On cutting into the ductus communis, no bile issued from the aperture, and the hepatic duct had also evidently for some time ceased to transmit its fluid from the liver. The stomach had every mark of high inflammation, as also the intestines. The veins around the pylorus were enormously distended. The spleen was turgid, but in other respects natural. The peritoneum on the under side of the diaphragm, and the pleura on the upper, bore the marks of inflammation, but no other parts of those membranes appeared to have been diseased.

The omentum was thickened and its blood vessels turgid. No appearances of suppuration were present in any of the viscera, nor was there the least mark of putrefaction in any part of the body.

In this patient the intestinal discharges had uniformly been of the colour and consistence of water gruel, except a few evacuations resembling the matter of black vomit, with which

symptom he had been seized on the fourth day of his disease.

The second case was that of a patient who died on the 12th day, but who had a remission of the disease. On the 6th day, however, he was seized with delirium, which continued until his death.

The brain was greatly diseased; its blood vessels much distended, and serum effused to the amount of two or three ounces between the dura and pia mater. Indeed these membranes were in some parts united by a band of coagulable lymph. The lungs adhered to the pleura on both sides. The right lobe was inflamed and indurated, while the left was in a state of suppuration. The heart was natural; the liver was highly inflamed, and the gall bladder full of bile and its ducts pervious.

The stomach was nearly in its natural state, but on the inside the surface of the villous coat was besmeared with a matter, which seemed to be of the same nature with the black vomit, though nothing of that kind had been ejected in the course of the disease.

The duodenum, and indeed the whole extent of the small intestines, were much inflamed. The bladder was greatly contracted, and its inner coat appeared to have been in a high state of inflammation, the vessels having been distended to such a degree, as to have suffered a rupture, and effused a quantity of blood into the cavity of that organ.

Of this patient it is remarked, that a pulmonic affection had previously existed, which would probably have caused an early death had not the acute disease supervened.

In the third case, death occurred on the fourth day. The lungs were inflamed and extremely gorged with blood. The liver was also inflamed, especially on its concave side and posterior part. Its substance was dense—"the gall bladder was completely obliterated, its coats having coalesced with the contiguous parts, so as to form with them one confused membranous substance." The stomach precisely resembled that of the second case, being smeared with the matter of black vomit. The colon was much inflamed in some parts.

In both the cases, where the gall bladder was diseased and ceased to perform its functions, the body became yellow before death; in the remaining one where the bile was found in due quantity, this circumstance did not occur.

Drs. Rand and Warren infer from the above dissections, that the indications of cure should be directed to a course which would allay inflammation in general, and at the same time o en the excretory ducts of the liver. They state their confidence, that after proper evacuations, the use of *calomel* will be found to answer these important purposes. It had been used at the time of communicating this paper with fifteen patients, all of whom, except one, had recovered or past the dangerous period. It was given in small dozes of one, two, or three grains, every hour or two, so as to produce an early salivation. In this way from one hundred to one hundred and thirty grains had been administered in the course of three or four days, commencing its use immediately "after the first copious evacuations by bleeding and purging, and in every instance as the salivation came on the disease abated."

The coincidence of their practice with that of Dr. Rush is mentioned, but it is added, that the use of calomel is more explicitly and highly recommended by James Clark, M. D. in his Treatise on the Yellow Fever, as it appeared in Dominica in the years 1790, 94, 95, and 96.

2. *Remarks on the effects of Stagnant Air.* By Ebenezar Beardsley, Surgeon of the 22nd Regiment of the American Army in the Campaign of 1776. Vol. I. p. 542.

This paper contains a striking instance of the mode in which endemic dysentery is frequently generated.

In the beginning of April 1776, the American Army under the command of General Washington, marched from Boston to New-York, and arrived there about the middle of the month. The sick and invalids having been left behind, the whole army were in perfect health. They took up quarters in the barracks and houses of the citizens, till about the first of May,

when they all went into tents, except the 22nd regiment, who, for want of tents, continued their quarters in *Smith-street*. This regiment continued very healthy until about the middle of May, when upwards of one hundred men were taken down with the dysentery in the space of one week. On inquiry, not a single case of this disease was found to exist in the remainder of the army, nor indeed among the citizens. "Those who lived in the same street, (says Dr, B.) and many of them in the same houses with us, were entirely free from this, or indeed any other disease." What added to the difficulty was, that some whole companies of the same regiment had nothing of it. This led our author to a more particular investigation into the situation and circumstances of the sick, all of whom he found lived either in low under-ground rooms, or else in garrets, so situated as not to admit of a free circulation of air. The rooms were also small.

Dr. Beardsley was induced from these circumstances to conclude, that the disease arose from the confined air, loaded with effluvia from the bodies of those who inhabited it. And acting on this opinion, he advised a removal to more airy and spacious apartments. The consequences were highly salutary. All except one or two cases recovered in a short time, and no new cases supervened.

Dr. B. applied with advantage the knowledge of this fact in the treatment of the autumnal diseases of the same year. "Even however, in large and well ventilated rooms, I frequently observed, that *cæteris paribus*, the sick who lay in and near the corners of the rooms were handled much more severely than those who lay in the middle of them."

3. *An account of an uncommon case of Emphysema, and of an external abscess whose contents were discharged by coughing.* By Edward Augustus Holyoke, M.D. F. A. A. Vol. II. Part I. p. 186.

This paper is from the pen of the venerable patriarch of American medicine, who has lately completed his hundredth year.

On the 15th of July 1783, he was desired by a medical gentleman to visit an infant of about twelve months old, which

had been severely attacked with peripneumony for ten days, and in whom an uncommon tumour had just made its appearance. On viewing the patient, Dr. H. found an extensive, soft, and flatulent swelling, crackling under the fingers when pressed upon. This showed itself on the preceding evening, during a violent fit of coughing, on one side of the neck, near the right *mastoid muscle*. At ten o'clock the next morning, it had spread across the neck, and up by the left ear, under the scalp, so as to cover the whole extent of the *crotaphite* muscle on that side. On the left side it extended no farther up than the ear, while downwards it spread on the breasts, and to each axilla. It was evidently increasing, especially upon coughing. The pulse was frequent, the skin hot, respiration deep, frequent, and very laborious, and the cough violent. On the succeeding days, the swelling gradually extended over the head and down the breast and back, until the 18th, (the day of its death) when the whole trunk was puffed up, except a small area around the navel. The face however, and the upper and lower limbs were every where free from swelling.

No persuasions were found effectual to obtain an inspection of the body. Dr. Holyoke suggests the possibility of their having a been a rupture of the membranes of the *aspera arteria* somewhere between its cartilages, and thus giving passage to the air from the lungs into the adjacent cellular membrane at every expiration.

He thinks it probable, however, that the following case may throw some light on the former. A man aged fifty-three years, with all the symptoms of confirmed consumption, had a large tumour formed upon the upper part of the thorax on the left side, and extending from the shoulder, along the lower edge of the clavicle to the sternum, about the breadth of a man's hand. Having all the appearances of a large abscess, it was treated as such, and suppuration seemed to be advancing, but on removing the dressings one day, the tumour appeared less prominent and flabby to the touch, while the pain and inflammation had abated. The skin was unbroken. A whizzing noise was also heard by the patient in the tumour, and which, indeed, was manifest to the ear of the observer, if

placed near it. At this time, the cough was urgent and the expectoration copious.

From this period, the tumour and inflammation subsided, the noise in breathing gradually lessened, and by the aid of pectorals and the bark, the hectic and cough disappeared.—His strength returned slowly, and at the period of this communication, he was in tolerable health.

In this instance, it is supposed that the abscess succeeding the pleuritic inflammation, burst inwardly, and that some of the air from the lungs passed at every expiration into this cavity, but could not diffuse itself in the cellular membrane, and produce general emphysema, on account of the inflammation surrounding the abscess forming a barrier impenetrable to it. The passing and repassing of the air will explain the noise complained of.

4. *Animadversions on the dangerous practice of sleeping on the damp ground and of exposure to the night air, particularly where the animal powers are diminished illustrated on philosophical principles.* By A. Fothergill, M. D. F. R. S. &c. &c. Vol. III. p. 206.

The aim of this communication is to show that the evaporation from the surface of the earth, together with the diminution of temperature consequent on the change from day to night, must prove injurious to those who expose themselves. The inattention manifested by the young of both sexes, to accommodate their dress to the rapid transitions in our climate is severely censured, and its evident influence in the production of disease is pointed out.

SURGERY.

1. *Case of a remarkably large Tumour, found in the cavity of the Abdomen.* By Joshua Fisher, F. A. A. & M. S. Vol. I. page 537.

2. *A History of a large Tumour in the Region of the Abdomen, containing hair.* Ry John Warren, Esq. F. A. A. & M. S. and Professor of Anatomy and Surgery in the University of Cambridge. Vol. I. p. 551.

The subject of the first case was a female who had enjoyed good health, until the period of the cessation of the catamenia. She had been married from early life, but never had a child. Soon after the menses ceased she observed an unusual fulness of the abdomen, which gradually increased without any disagreeable symptoms, till she was near sixty years of age, about two years before her death. She then complained of pain in the left hypochondriac region, which became sensibly tumefied, and the abdomen was very large and tense. Inflammation was present, when Dr. Fisher first saw her, apparently forward of the rectum, and a bloody pus was finally discharged by the natural passages. During the presence of the severe symptoms, the urine was scanty and discharged with pain.

Cooling and anodyne remedies relieved her for about two months, and left nothing but the sense of distention and compression. At the end of that period, the symptoms returned with great violence: purulent matter, with blood and fæces were discharged, and she died on the fourteenth day of the attack. In her last struggles, which were very violent, she discharged, (probably per vaginam) a large quantity of dark water, resembling high coloured urine. This considerably reduced the bulk of the abdomen.

On dissection, a preternatural substance, adhering to the adjacent parts, was found occupying the abdomen and the upper part of the pelvis. Its nature was scirrhous, and it appeared to have originated in both the ovaria. Its weight was upwards of ten pounds and a quarter. The bladder was compressed by it, and the ureters passed through it to a considerable extent. The fundus uteri adhered to the basis of the scirrhus. The fallopian tubes were diseased.

The back of the tumour was attached to the aorta vena cava, &c. while to the rectum, which was protruded to the right side of the spine, it adhered for the space of seven or eight inches. Circumstances did not permit a further examination, but it was probable that the water must have been contained in a sac on the left side.

The subject of Dr. Warren's case, was a negro woman aged

thirty two years, who also complained of pain on the left side of the abdomen and swelling, after the birth of her third child. This gradually increased after two successive labours, and since the birth of her last child, now about twelve years of age, had been almost constantly painful. Discutient remedies had no effect, and a tendency to suppuration became evident. This was encouraged, and a fluctuation was soon perceptible. It was determined to open the tumour, which was done with an extensive incision. A pint of watery matter issued from it, and afterwards about the same quantity of pus.

On examining the cavity, a substance of the consistency of soft soap was discovered in it; a portion of this was removed at several successive dressings, and on investigation it was found to contain a large quantity of short hair or wool, about three quarters of an inch long, uniformly mixed with it. No other substance could be found in the cavity, by the hand passed round it.

The patient gradually recovered by the aid of tonics, and generous diet, so as to enjoy good health. The catamenia remained and continued regular, but no signs of pregnancy had subsequently been present.

Dr. Warren inclines to the opinion, that the ovarium was in this substance the diseased part.

3. *A remarkable case of Gun-shot wound.* Communicated in a letter from Barnabas Binney, Hospital Physician and Surgeon in the American Army, in 1782, to the Hon. Benjamin Lincoln, Esq. F. A. A. Vol. I. p. 544.

In April 1782, David Beveridge aged nineteen years, a seaman on board the sloop of War *General Monk*, was, during her engagement with the *Hyder Ally*, shot with a musket ball in the abdomen. The ball entered about two inches above his left groin, and within an inch of the anterior edge of the left ilium; passing out two inches on the right of the spine, between the two inferior true ribs and just touching the cartilage of the inferior angle of the right scapula. When brought to the hospital, he was much sunk,—bled profusely,—hiccup was constantly present, and the fæces passed freely out of the

wound. Believing his case desperate, a little wine, with a few drops of laudanum was administered, and this was continued with benefit for several days. He took no sustenance except wine whey, and had no discharge per anum, but passed his fæces through the wound. Six days after the injury, an enema was administered, part of which passed by the wound, and the remainder returned without any fæces. The wound gradually closed and the symptoms improved. On the eleventh day, an enema gently administered, gave him for the first time a natural stool. From this time, he had no further discharge by the wound, but gradually recovered; his wounds suppurated and healed kindly, and he was discharged on the twenty-second day.

Mr. Binney remarks that this case was one in which the officiousness of the surgeon might have done great injury. Any meddling with the wound might have removed the orifice in the intestine from the orifice through the abdomen, and a fatal discharge of fæces into the latter would thus probably have resulted.

4 *Account of a Locked Jaw.* By Aaron Dexter, M.D. F. A. A. Vol. II. part I. p. 191.

This is the case of a medical gentleman, in whom the disease supervened in consequence of treading on a nail. It entered the ball of the left foot, directly over the tendon leading to the second toe. Tetanic symptoms supervened on the fourth day. At his own request the cold bath was several times applied, and at first with great apparent benefit, but on the fifth application, it caused tremor and great anxiety, which were succeeded by more violent spasms. Irritants applied to the injured part had no effect.

The warm bath was now proposed and used, with a little relief, as copious perspiration ensued, but the return of the spasms destroyed any reliance upon it. Electricity, mercurial frictions, enemata with laudanum, were in turn used with temporary advantage, but the spasms at last affected the diaphragm and lungs, and on the eighth day after the attack, he expired in a convulsion. His intellect remained perfect during

the disease, and he counselled with the attending physicians as to the means to be used; but he appears from the first moment of the attack, to have despaired of his recovery.

The injured part was examined. The nail had not entered the tendon, but passed by the side of it to the periosteum of the bone, which it had not affected. Under the tendon was a small cavity, discoloured throughout, with evident marks of previous inflammation.

5. *On the use of Oil of Tobacco, in the cure of Cancers.* In a letter from Rev. Tephaniah Willis of Kingston, to Rev. Joseph Willard, D. D. LL. D. Vol. II. part II. p. 137.

An individual descended from a family remarkably subject to cancers, was seized with one on the outer corner of his left eye. It was extirpated with success. About five years after, a similar affection attacked the right eye, which extended to such a degree, that the surgeon applied to, refused to operate, lest it might hasten his dissolution.

Apparently on his own suggestion, he began applying the oil exuding from his tobacco pipe to the diseased part. A few applications improved its appearance, and at the end of about two months, the cancer was healed.

CHEMISTRY AND MATERIA MEDICA.

1. *Experiments on the waters of Boston.* By J. Feron, Surgeon-Major of his Most Christian Majesty's Squadron, under M. De Ternay's command in North America, and of His Majesty's Marine Hospitals at Boston, and in Rhode Island, F. M. S. Vol. I. p. 556.
2. *Second Essai sur des Eaux de Boston.* Par M. Feron. Vol. II. part 1. p. 170.
3. *An account of a number of Medicinal Springs at Saratoga, in the State of New-York.* By Dr. Samuel Tenney. Vol. II. part 1. p. 43.

The communication of Dr. Tenney is dated in 1783. He states, that the Saratoga Springs were unknown (except to the Mohawks, in whose country they are found) until about thirteen years previous, at which time they were discovered by some surveyors.

Dr. T. proceeds to give a description of them, and mentions several experiments performed by him on the waters. He determines that lime, iron, and a large quantity of fixed air are present; more indeed of the latter than is to be found in the springs of Europe.

Their medicinal qualities are highly estimated. Many cases of rheumatism, scurvy, cutaneous affections, hepatitis and jaundice, and even in one instance pulmonic disease, are said by Dr. T. to have been cured through their use.

This paper we believe is the oldest in point of date, on the nature of these remarkable springs. It well deserves an attentive perusal, and particularly by those who may hereafter treat of their chemical and medicinal qualities. *Suum cuique.*

4. *An account of some of the vegetable productions, naturally growing in this part of America, botanically arranged.* By the Rev. Manasseh Cutler, F. A. A. & M. S. and Member of the Philosophical Society of Philadelphia. Vol. I. p. 396.

This is one of the earliest papers upon the botanical productions of the United States, and has been much quoted by subsequent writers. The plants are arranged according to the Linnean method, and short descriptions are added. What makes this essay particularly interesting to the physician, are the notices of the medicinal virtues of the plants enumerated. We forbear going into detail, as most of the facts mentioned by Dr. Cutler, have been copied into recent works on American Medical Botany.

MISCELLANEOUS PAPERS.

1. *A Bill of Mortality for the town of Salem, for the years* 1782 & 1783. By Edward A. Holyoke, M. D. &c. Vol. I. p. 546.
2. *Observations on the Longevity of the Inhabitants of Ipswich and Hingham, and proposals for ascertaining the value of estates held for life, and the reversion of them.* In a letter from the Rev. Edward Wigglesworth, F. A. A. and Hollisian Professor of Divinity in the University of Cambridge, to the Hon. James Bowdoin. Pres. A. A. Vol. I. p. 565.
3. *A Table showing the probability of the duration, the decrement and the expectation of life in the States of Massachusetts and New-Hampshire, formed from sixty two bills of Mortality, on the files of the American Academy of Arts and Sciences, in the year* 1789. By Ed. Wigglesworth, D. D. &c. Vol. II. part 1. p. 191.

4. ***On Meteorological Observations and Bills of Mortality.*** In a letter from Ed. A Holyoke, M. D. to the late E. Wigglesworth, D. D. Vol. II. part 2. p. 58.

5. ***Synopsis of several Bills of Mortality.*** By Rev Jos. McKean, A. A. S. President of Bowdoin College. Vol. II. part 2. p. 58.

Salem is a seaport town, about fifteen miles north-east from Boston. The ground on which it is built, is flat and low, being scarcely in any part more than twenty or twenty four feet above the level of the sea at high water. The soil is in general light, dry, and sandy, and quite free from marshes or collections of stagnant water. Dr. Holyoke adds, that the inhabitants are not subject to any endemic diseases.

The number of inhabitants are estimated at about nine thousand.

	Births.	*Deaths.*	*Marriages.*
1782	317	175	70
1783	385	189	84

In 1783 the measles were epidemic, and 34 died of it and its consequences. The proportion of deaths in each month, the ages at which death took place, and the respective diseases present nothing materially different from the tables of our larger cities. There were 35 deaths from consumption during the two years.

Dr. Wigglesworth received from the Rev. Mr. Cutler of Ipswich, a bill of the births and deaths in his parish, from September 11, 1771, to September 11, 1781. During that period, there had been 331 births, of which 60 died before they completed their fifth year. The deaths were 164, and of these 21 survived 80 years complete.

He also obtained a copy of the Rev. Mr. Gay's Bill of the baptisms, burials, and marriages in the first parish of Hingham, from 1726 to 1779 inclusive. Births, 2247; deaths, 1113; marriages 521. Of the deaths, 186 died in the first year and 403 under five years complete. During the 54 years, 84 survived to upwards of 80 years. The great superiority of these over the Breslaw results, as to the probability of life, is pointed out by Dr. W.

The nature of the third paper is stated in its title. Returns were received at the academy from a number of towns on the sea coast, as well as in the interior of the state, and some of them were for a long of years. The births were annually double of the deaths, and the whole number of these last on the bills was 4893, at the following ages :—

Under 5 years of age	1942
Between 5 and 10	236
10 and 15	136
15 and 25	425
25 and 35	382
35 and 45	349
45 and 55	270
55 and 65	270
65 and 75	372
75 and 80	185
80 and 85	171
85 and 90	103
90 and 95	36
95 and 100	16
	4893

Having estimated from the above data, that the population of Massachusetts amounted at this time to 176,033 inhabitants, Dr. W. observes, that the annual excess of 4893 births above the deaths, on that stock, determines the period of duplication to be twenty-five years and three-tenths of a year."

President McKean's Synopsis is also taken from the bills of upwards of forty parishes and towns, for various periods of time, but we are unable to state whether they are either in whole or in part distinct from those examined by Dr. Wigglesworth. The whole number of deaths on the bills is 6576, at the following ages, of which 828 died during the first year :—

Under 5 years of age	2500
Between 5 and 10	337
10 and 20	397
20 and 30	629
30 and 40	457
40 and 50	401
50 and 60	324
60 and 70	433
70 and 80	574
80 and 90	429
90 and 100	92
Above 100	3
	6576

In five of these parishes, during the various periods of time reported, (none less than nine years and several upwards of twenty) the deaths had been 1563 and the births 3375.

Dr. McKean does not speak so favourably of the increase of population as his predecessor. In nine parishes, containing 13,852 inhabitants, their mean annual increase is stated to be 273, and their period of duplication thirty-five and a half years.

6. *An Account of the deleterious effects of Mephitic Air or Marsh Miasmata, experienced by three men, July* 27, 1797, *in a well, on the Boston Pier.* By Rev. John Lathrop, D.D. F.A.A.—Vol. II. Part 2. p. 81.

7. *Fatal effects of lightning, in a letter to Rev. Joseph Willard, President of the University of Cambridge, &c.* By Rev. John Lathrop, D.D. Vol. II. Part 2. p. 85.

In one of the cases related by Dr. Lathrop, of individuals killed by lightning, the hat was torn, and there was a laceration of the skin of the head, from which blood issued.—Marks of injury were also perceivable down the neck and breast to the feet. The clothes were torn open in several places.

ART. II. ***Compendium of operative Midwifery; or, the manual and instrumental operations of preternatural labours, reduced to the greatest simplicity; preceded by an investigation of the mechanism of natural labour.*** From the French of Julius Hatin, Doctor of the Medical Faculty of Paris, &c. By RICHARD TUITE, M. D. formerly President of the Royal Physical Society of Edinburgh, &c.

IT must be acknowledged that midwifery as an *art*, in its most difficult parts, has not sufficiently attracted the attention of the mass of medical practitioners of this country. A degree of apathy in acquiring skill in the manual operations of midwifery certainly exists among us; and students of medicine, apparently not sufficiently aware of its necessity, are little disposed to take much pains to acquire it. Some portion of this apathy is probably attributable to the popular obstetrical works most in use among us; and more especially to that of Dr. Denman. The whole scope and tenor of this author's work is to insist upon the necessity of leaving almost every case of labour to the unassisted efforts of nature; and as if the process of parturition were an exception to that liability to disease and disturbance to which every other function of the body is prone, he allows of too little interference in cases which absolutely require the assistance of art. This timid mode of practice which originated with Dr. William Hunter, and under his great authority became firmly established in England, was probably brought about by the opposite extreme of boldness and rashness in the use of instruments which characterised the practice of some of the more popular obstetric practitioners who preceded him. That the discovery of the powers of the forceps and lever led to their abuse, by an indiscriminate employment of these powerful agents, in cases not requiring them, cannot be doubted; but that Dr. Hunter and his disciples ran into the opposite extreme, in proscribing them, is as certainly true.

We would not, however, be understood to mean, that obstetric instruments are not sufficiently employed in this country. Although, probably, here as elsewhere, many

women and children are lost who might have been saved by their timely application; yet it is equally true that they are frequently employed unnecessarily; and their more extensive use is by no means desirable. It is the little pains bestowed in acquiring the necessary practical skill for obstetric operations we complain. And do we complain unjustly? How many students of medicine, previously to commencing practice, have even *once* performed upon the machine, *all* the operations of midwifery? And how many for the first time upon the living female, attempt the use of the forceps or lever? The use of these instruments is always painful, frequently dangerous to both mother and child; and is any man then justifiable in employing them without having first acquired the requisite skill in their use upon the machine?

These remarks have been suggested by the title of the work which precedes this article; a work which purports to teach us the best methods of affording manual and instrumental assistance in cases requiring it. The observations of the translator in his preface are so pertinent that we cannot but extract them.

"Principles, after all, are but conclusions drawn from many individual facts; and though the details of a science may be said to be involved or wrapped up in its principles, yet he who has but learned its principles is no wiser than the man who, knowing the conclusion of a syllogism, is ignorant of the data on which it is founded—of the premises from which it is drawn.

"If natural labour be the foundaiton of the science, it is also the great prototype of the art—the great model which the obstetrical operator must ever keep steadily in view when employed in his operations; for, in obstetrics, success will not always result even from the judicious application of the precept, unless we also study to imitate nature in the manner in which it is to be executed; thus constituting midwifery not only a scientific, but also an imitative art.

"Art is the application of science to practice—its precepts being so many corollaries deduced from the principles of science. Though science may be acquired by attentive reading and reflection, art can only be attained by exercise and practice. Reading, however extensive, has never formed an artist, nor will it ever create an operator. It is execution, frequent and repeated exercise, which can alone give a proficiency

in art, insure skill, or constitute that habit which is indispensable to success.

"In the study of midwifery, 'to read too much is sloth;' because its principles are few and easily attained, whereas their application is vast and varied. How mistaken, then, is the idea, how fatal the error, to imbue the mind of the young accoucheur with the facts, principles, and even precepts of midwifery, and to leave him with his hand unskilled to seek in an emergency, at the bedside of labour, in the moment of danger, an opportunity of fulfilling those precepts, of performing those operations, the success of which must essentially depend on his dexterity. It is hard to do that well which we do for the first time, and presumptuous is the idea that would promise success before the attempt has been made. Of what use, let me now ask, will it be to know that in such a position the fœtus is to be turned and delivered by the feet—here the forceps are to be applied, there the lever—if in delivering he fractures the limbs of the child, dislocates its trunk, and leaves it all mangled and mutilated; or if he lacerates the parts of the mother, and leaves them in that state of inflammation to which at this period they are so prone, and which a few hours may bring to its crisis?

"Skill is no more natural to man than knowledge; they are both the result of the successful application of his faculties—the reward of industry. He who would doubt it, need but direct his attention to the frequent, incessant, and laboured efforts to which the child is doomed before it attains the use of its limbs; but this he may attribute to the want of strength; let him, then, figure to himself the lusty hand of a mechanic passing along the pliant keys of a harpsichord, and then tell me whether the hand is necessarily obedient to the dictates of the understanding, or in accordance with the strongest influence of the will. The truth is, that the hand requires cultivation as much as the understanding, and with cultivation it has produced feats more astonishing to man himself than ever have been produced by the mightiest efforts of the intellect. The student need, therefore, not expect success or any satisfaction to result from his practice in the obstetric art, unless he accustom himself to repeat those operations on the machine which he may be called upon to perform at the bedside of labour."

These introductory remarks of Dr. Tuite, we would recommend to the attentive perusal of every student; and if he will follow the advice they contain, he cannot but obtain the reward always incident to great skill in every branch of our profession. As a companion to the machine, this little work is unexceptionable, and we rejoice therefore to see it in its English dress. With such distinct directions as it affords, all the requisite skill in the performance of obstetrical operations may be obtained with very moderate labour. As a translation,

it ranks with most of the English versions of French medical works which we have seen. They all contain too many Gallicisms, and prove the translator to have paid more attention to the French language than his own. The only serious error of this kind we have noticed in this translation, is at page 56, where the French word "*crochet*," is used instead of the English words "*blunt-hook*," and throughout the work it is employed in the same manner. This error might be material if the "*crochet*" were confounded with the instrument called the "*crotchet*," a mistake readily made by those unacquainted with the French language.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

Single Vision and the Union of the Optic Nerves.—An interesting paper on this subject, by W. Twining, Esq. is republished in the July number of Dr. Brewster's Journal, from the Transactions of the Medical and Physical Society of Calcutta. From this paper we make the following extracts.

"The phenomena of single vision with two eyes, each of which represents a picture of the object we look at, has received various explanations, and has been the subject of much inquiry. Dr. Wollaston has lately promulgated an opinion on this subject, which I propose to bring before the society, for the purpose of noticing some observations respecting the structure of the optic nerves and thalami in a healthy state, as well as investigations of the changes produced by disease, which preclude us from admitting Dr. Wollaston's premises, or adopting his conclusions.

"Dr. Wollaston believes, that the faculty of single vision with two eyes may be attributed to a semi-decussation of the optic nerves; namely, that the contiguous half of each optic nerve, on reaching the *sella turcica*, and there uniting with its fellow, does cross and ultimately serve to furnish retina to the nasal side of the opposite eye; the retina of the temporal side of each eye being formed by the expansion of half of the corresponding nerve, while the retina on the nasal side of each eye is supplied by the expansion of half of the nerve from the opposite side. This semi-decussation and distribution of the nerves, though not within the reach of anatomical demonstration, Dr. Wollaston considers established by induction, from the symptoms of disease in some instances which he relates.

"A case nearly similar to those published by Dr. Wollaston, came under my care about four years ago.—C. D. a lady about twenty

years of age, and in perfect health, was thrown from her horse, while taking exercise in a riding-school. In falling, the left shoulder and left side of the head struck against the boarded wall. The shock occasioned a momentary privation of consciousness, but of such short duration, that it amounted only to the slightest degree of stunning; from which she soon recovered, and again rode for half an hour. About an hour after the fall her sight became impaired, so that half of objects on her right, (that is, the left side of persons walking towards her,) was not seen. On looking at a book, she read with difficulty, half of the page being dark; and she found that she could not comprehend what she read, from forgetting the first part of the sentence before she arrived at its conclusion. A dull heavy head-ache was felt, the pulse became slow and oppressed, countenance pale, and void of expression, pupils dilated, and vomiting came on.

"The slow and gradual accession of these symptoms, distinct from the first effects of concussion, and not immediately connected with alarm at the moment of the accident, was attributed to effusion slowly taking place from ruptured vessels, and appeared to indicate the necessity of active treatment. The patient was accordingly bled to lb j. ss. and a general system of depletion was adopted in its fullest extent; at the same time every kind of excitement was avoided, and no food but tea, and a very small quantity of bread, allowed for several days.

"In a few hours after the v. s. the whole of objects was perceived; but there was a confusion of sight, objects appearing irregular, and their outlines not well defined. This symptom, with dizziness and a dull headache, subsided gradually; and after several days continuance in the plan of treatment above stated, the patient recovered, and has never since experienced any similar affection of the sight. In this case no experiment was made to ascertain whether only half of objects would be seen, when one eye was closed.

"We sometimes find that injuries of the head, sympathetic affections of remote parts of the nervous system, and disorders of the stomach, as well as those disturbances of the nervous system dependent on distress of mind, intense thought, and severe application to business, produce suspension of the functions of some organs and disordered action of others.—It is difficult to assign a reason why affections of mind occasionally produce the same symptoms, as arose from concussion of the brain in the above instance; nor is it easy to ascertain how mental emotions sometimes suddedly cause those symptoms to cease.

"The function of vision does not unfrequently suffer from all these causes; but surely we have not legitimate reason to conclude, that when hemiopsia or half sight has been produced, the cause must be lesion of just half the optic nerve, or of the whole nerve on one side, between its origin and the union on the *sella turcica*. On the contrary, lesion, or disease of one nerve at the point just mentioned has not been attended with hemiopsia."

Our limits will not permit us to follow the author in his remarks upon the various attempts to show how single vision with two eyes is obtained, and also to explain the phenomena of hemiopsia, or half sight. We shall content ourselves with quoting the concluding paragraphs of the paper.

"The eyes are not the only organs of sense which being double, do communicate a single impression to the sensorium. We have a parallel instance in the sense of hearing. The fact is, that we have no proof that there is any more correspondence between the pictures in the eye, and the sensations produced by them in the brain, than there is resemblance between the sounds of any given words of a language and the sentiments excited thereby in the sensorium. Nor does it appear necessary towards unity of perception of any given object, that the impression on the organs of sense should be single. Brown has observed in his "Philosophy of the Human Mind," that the two words "he conquered," produced in the mind the same single idea or impression as the word "vicit."

"I think the aggregate of the foregoing paper will be admitted as sufficient proof that there is no decussation of the optic nerves on the *sella turcica* in man. If we wish to ascertain how single vision is accomplished with two eyes, we must seek other reasons for that phenomenon than those which have been assumed by Sir Isaac Newton and by Dr. Wollaston — The facts above stated appear to me so demonstrative on this subject, that I am satisfied those authors, with such evidence, would not have adopted the conclusions they have published."

On the predominance of the right arm over the left.—M. le Comte, in a memoir relative to the predominance of the right arm over the left, in the Journal de Physiologie Experimentale for January, 1828, commences with refuting the opinion of those who have attributed this predominance to habit. He then passes under review the different hypotheses of physiologists, who have hitherto looked for the cause of this phenomenon in the normal organization of man, and finds all that has been proposed inadequate. He at length comes to his own hypothesis. In his opinion, the differences between the right and left system has its source in the position which the human fœtus affects in the uterus during the last months of gestation. In by far the greater number of cases, the position is such that its left arm and shoulder, as well as the left side in general, are pressed against the bone of the pelvis. From this pressure there results a contraction of the blood-vessels—a sort of atrophy commencing in the whole left system. The weakness of that side, therefore, results from this congenital disposition. M. Comte, with a view of obtaining a verification of his theory, compared the cases in which the fœtus occurs in the position which he considers as calculated to determine the weakening of the left system, with those in which it assumes a contrary position; and he has found a number which expresses the proportion of right-handed and left-handed persons. Having been for several years a resident pupil at the Maison

Royal d'Accouchements, M. Comte occupied himself in observing the habits of the children which, at the moment of their birth, he had supposed would be left-handed, and he found his prognostications verified.—He proposes to make a further trial on the children in the Hospice de Orphelins, with respect to whom it would be possible to ascertain the peculiar circumstances that attended their birth. He concludes with considerations respecting the means of enabling children to use both sides freely. To insure this happy result, it is not enough to make children use both hands alike after they are two or three years old. To compensate the defective condition of the left system at the moment of birth, they must be forced to use it solely, leaving the right arm in a state of inactivity. The reverse of this is what generally takes place. Nurses, in fact, usually carry children on the right arm. In this position the child has the whole left side pressed against the breast of the nurse, which cannot but increase the disposition acquired at birth.—*Jameson's Edinburgh Philos. Jour.* Vol. V. p. 407.

Physiological Memoir on the Cerebro-Spinal Fluid. By M. MAJENDIE. Read before the Royal Academy of Science, June 16, 1828; and condensed from the Journal de Physiologie.

Since the regard which the ancients entertained for the remains of the dead has given place to an ardent desire to become acquainted with the organization of animal bodies, anatomicel science has been carried to a high degree of perfection by the successive labours of eminent men. Anatomists, who still hope to find some part not observed before, some structure yet undescribed, are fain to proceed with their microscopes in hand. This circumstance alone is sufficient to shew the perfection at which the anatomy of the human body has arrived.

The investigations which I have long pursued with regard to the nervous system have led to my discovering a new element of our constitution: not one of those which requires minute search to be detected: on the contrary, the element of which I speak is so apparent, that it has only escaped heretofore from the belief that no part of the body, however minute, could have eluded the investigation of anatomists.

I have ascertained that there exists in the brain and spinal marrow a liquid, in the midst of which is immersed the brain, spinal marrow, and the origins of all the nerves. This liquid, which belongs to the most perfect health, and the quantity of which amounts to several ounces, is too obvious not to have been noticed, and even mentioned, by several authors; but then its presence was attributed either to disease or to changes which had occurred after death. You may conceive my satisfaction on ascertaining so important a fact. A host of conjectures presented themselves to my mind: was this liquid the *animal spirits* of ancient writers?—the *nervous fluid* of which certain physiologists still speak? Doubtless, had the discovery been made fifty years ago, we should have had some hypothesis founded upon it. But such is not now the progress of science; experience

is preferred to the most ingenious systems; and some observations on nature and some experiments are all that this memoir will contain.

It was necessary to begin by naming the liquid; for a name is a great matter, even in anatomy. I called it the *cephalo-spinal* or *cephalo-rachidian*, because it is found both in the head and cavity of the spine. I next tried to determine the exact quantity of it; and I ascertained that, in an adult man, of middle stature, and in the enjoyment of all his faculties, there were about three ounces; and in women, under similar circumstances, the quantity is greater: it will be seen by and by that this is no advantage. In old persons the quantity of the liquid is still more considerable, and may extend even to six or seven ounces; but then the faculties both of body and mind are generally much impaired.

The situation occupied by the fluid is worthy of remark. It forms round the brain and spinal marrow a layer which varies in thickness at different points: at the neck it is four or five lines; at the loins it is more than an inch; in the brain generally one or two lines, but in certain structures and certain cases nearly an inch. Do not these facts militate strongly against a famous system, in which it is pretended to determine the most minute circumstances concerning the volume and conformation of the brain by the shape of the skull? If there exists, as cannot be doubted, a layer of fluid between the cranium and the brain, and if this layer may have several lines in thickness, how can we judge of the dimensions of the brain by those of the cranium? and how be sure that the elevations or depressions of the surface of the head correspond to those of the brain?

The study of the portion of the fluid which covers the brain led me to a singular and very unexpected fact with regard to the volume of this organ.

We look upon the dimensions of the brain as not subject to variation, because we think that it fills exactly the cavity of the cranium, and because we do not see the head become emaciated or increased in size with the other parts of the body; but nothing is less correct. I ascertained that the brain follows the other organs with regard to the change of its volume.

In all diseases of a certain duration, when the body wastes much, the brain undergoes a similar diminution, and the convalescent, who can scarcely walk, and who attributes his weakness to the almost entire disappearance of the muscles of his limbs, might with as much reason attribute his moral weakness to the diminution in the size of the brain. I have ascertained, besides, that in proportion as the wasted limbs regain their former dimensions, the brain also recovers that which it had lost. Thus it appears that one of the uses of the cephalo-spinal liquid is to replace the brain as often as it diminishes in actual volume. It fulfils the same office in instances of partial diminution, as I was able to determine in individuals who, during many years of their life, had had the arm or leg contracted

and immovable. In this case a fifth or fourth part of one cerebral lobe had disappeared; a large depression was found on the surface of the organ, and this was occupied by the cerebro-spinal liquid, so that the cranium was always full.

After having made out the physical uses of the liquid, I wished to ascertain whether it exercised any influence on life. This could only be done by experiment on the lower animals, which have the cerebro-spinal liquid, though in much smaller proportion than man. My first trial was upon a fierce old fox, who was not at all anxious to contribute to the advancement of science. By means of a little puncture made in the neck, he lost all the cerebro-spinal liquid in a few minutes. The effect was very striking; this animal, which had been ferocious but a moment before, became calm all at once; he no longer attempted to bite, and indeed scarcely moved. Seeing him in this disposition, I made him be set at liberty; but he lay down on the spot, and did not stir till next morning; he then attempted to get up, and in the course of the day made several steps with some confidence. At the end of thrity-six hours he again attempted to bite, and tried to escape. I then made a fresh puncture in his neck, and from the result I was satisfied that the cerebro-spinal liquid had been completely renewed again.

These inquiries led me to examine, with more attention than I had previously done, a disease of very young infants, in which a pouch filled with water exists at the lower part of the spine, at the place where the natural liquid is in large quantity; and I discovered that what we regard as a morbid product is nothing more than the natural liquid, which has distended its envelopes, and formed a hernia externally. When this bag happens to burst, the liquid escapes, and death speedily follows: probably because, the aperture remaining open, the fluid cannot again collect, and protect the brain and spinal marrow by its presence. Thus it appears that in man, as in the lower animals, the contact of this liquid with the surface of the brain is of great importance to the perfection of the nervous functions, and even to life.

But is it merely as a fluid that this is of so much use? or are the functions at all dependent upon its chemical constitution? To determine this question I made an experiment, in which, after having exhausted the cerebro-spinal liquid of an animal, I supplied its place with an equal quantity of distilled water at the same temperature; and I found, with surprise, that the animal became extremely agitated; its movements were perverted; it appeared to have entirely lost its usual instincts and habits. All this phenomena ceased when I allowed the water to escape. To judge if the temperature had an effect on the nervous functions, after having allowed the liquid which I had previously extracted from the animal to become cold, I reintroduced it into the cavity which it had occupied. Immediately the animal was seized with general trembling, analogous to what succeeds

intermittent fevers. It is, therefore, not impossible that this experiment may throw some light on the cause of the cold stage in fever.

I conclude, from the facts and experiments which I have detailed, and from many others already published, that the cephalo-spinal liquid influences the functions of the nervous system, first, by its contact with the surface of the brain and spinal marrow; secondly, by its chemical composition; and thirdly, by its temperature; and thus that this liquid must be ranked along with the blood, lymph, &c. from its utility in the animal economy.

But I had a much more important object than that which we have considered. I had to study the influence of this liquid upon the intellectual faculties of man. That I may be the better understood, it is necessary to say a few words on the formation of the brain. This is divided into two portions—one large, and occupying the upper part of the cranium, viz. the *brain* proper; the other small, and placed beneath, viz. the *cerebellum*.—The exterior of the brain presents a great number of rounded protuberances, varying in different individuals, and separated by furrows. Numerous cavities are formed in the centre of the cerebrum. It is there most probably that some of the mysteries of nervous actions and intellect are accomplished. Can it be believed that these cavities, rendered so important by the phenomena there produced, have been, and still are, denominated *ventricles*—little bellies! Is is not high time to discard this frivolous appellation from the language of anatomy? However this may be, the nomenclature of the parts contained within the cavities of the brain, offer this remarkable circumstance, that many of them have names indicative of hydraulic uses: thus we have the *aqueduct*, the *funnel*, the *valve*, and even the *bridge*.

Most of these names have descended to us from distant periods, and we are accustomed to look upon them as the remains of some ancient system which has crumbled beneath the weight of time. The old physicians believed that the ventricles of the brain were filled with water, which in certain cases escapes by the nose; a belief which passed to the vulgar, among whom we still meet with it. These ideas are looked upon as erroneous by modern anatomists, according to whom the ventricles of the brain, in its healthy condition, do not contain any water, but an invisible vapour, which they have represented as the immaterial spirit presiding over the acts of intelligence. Nevertheless, when we open the brain, we almost always find the ventricles filled with a limpid fluid; but the present doctrine regards this as the product of the disease causing death.

Having acquired the data which I have already mentioned, I have been led to think that the water which is so frequently found in the cerebral cavities might be the same which is found on the surface of the brain; from which it would follow that its presence in the ventricles was natural, as held by the ancients, and not a morbid product, as is at present supposed.

It will be perceived that, in order to confirm this idea, it was absolutely necessary that there should exist an opening by which a communication might be established between the exterior of the organ and its internal cavities; and yet no such opening was known. I did not, however despair; and after some researches, made at the termination of various diseases, I at last found an aperture, two or three lines in diameter, completely hid by a lobe of the cerebellum, and forming a true *entrance to the cavities of the brain.*

This fact once established, it became mechanically necessary that the cerebro-spinal liquid should enter into the cavities of the brain, and fill them; for they communicate with each other. I had no difficulty in verifying this inference in the bodies of persons destroyed by accidents, and which, in fact, showed me the liquid filling the cerebral cavities.

This discovery explained the hydraulic nomenclature of which I have spoken. I perceived that these pretended notions of ancient doctrines were simply the figurative but just designation of an assemblage of organs in full activity. In fact, the valvula Vieusseni of the cerebellum fulfils, to a certain extent, the office of a *valve;* the *aqueduct* has actually the functions which the name implies, as it transports the liquid from the fourth to the third ventricle; the infundibulum, or *funnel*, carries it to the pituitary gland; and lastly, the pons, or *bridge*, is really an arcade placed transversely in the direction which the fluid observes; it is situated not over, but under, the current which it traverses; and, to give an idea of it, I cannot do better than call to mind the tunnel which is now in progress under the Thames!

This, then, is a complete explanation of the hydraulic apparatus presented by the brain. Without being an exclusive admirer of ancient times, I must remark that, in this instance at least, our predecessors had observed with more accuracy than we have done. Modern anatomists, however, have this merit, that they respected the names, although they regarded them as false; and in this they were wise, as people sometimes are, without suspecting it.

The liquid which fills this cavity is not in repose. On the contrary, it undergoes constant agitation, by the effect of a kind of flux and reflux resulting from respiration. Thus, at the moment we inhale, the liquid flows out from the cerebral cavities, and passes into the spinal canal; while, on the other hand, at the moment we expire, the liquid re-enters those cavities, and flowing by the conduits above mentioned, particularly the aqueduct, which gives passage to the fluid, now in one direction, and now in the opposite.

The mechanical cause of this flux and reflux is very simple. It depends upon the alternating turgescence of the veins of the spine under the influence of respiration. This movement of the liquid is arrested, or much retarded, by compressing the abdomen. We may remark, that this is one of the effects of girdles, and serves to explain how their use becomes dangerous, or even insupportable, when the pressure is too great.

In studying the passage of the fluid by the aqueduct, I believe I have discovered the probable use of the pineal gland. I look upon it as a stopper destined to open and shut the aqueduct, over the anterior opening of which it is situated. Two large veins are placed and fixed upon the gland: these vary in size. Sometimes they swell greatly, and at others are nearly empty. It is inevitable, from the relative position of the parts, that the moment the veins swell they must press down the pineal gland, and this cannot yield nor descend, without shutting the entrance of the aqueduct to a greater or less extent. Now, as one of the constant effects of exertions, anger, and all violent passions, is to swell the veins of the head, and particularly those which press upon the pineal gland, it follows that, in these different conditions, the entrance of the fluid into the ventricles is intercepted, or at all events impeded. The use, then, (or, more correctly, one of the uses of the pineal gland, would appear to be that of regulating mechanically the flow of the cerebro-spinal liquid through the aqueduct.

What influence has this fluid on the intellectual faculties? With a view of ascertaining this, I have endeavoured to determine the quantity in the brains of sane persons, of maniacs, and idiots. Idiots have a considerable quantity; it occupies the surface of the brain, and there forms a thick layer; it distends the cerebral cavities, and displaces all the parts found there, particularly the pineal gland, which driven from its natural position, can no longer fulfil the functions which I attribute to it. The aqueduct likewise presents a considerable enlargement. In these cases we find 6 or 7 ounces of the cerebro-spinal fluid; and it is the same in the fatuity of elderly persons.

Maniacs also have a large quantity of liquid, but it does not accumulate at the surface of the brain; whatever be the nature of the insanity, the ventricles are always much distended.

The brains of persons gifted with reason up to the period of their death, generally contain less than an ounce of fluid in the ventricles; so that it is easy in this way to distinguish the brain of a madman, a fool, or a sane person. It would appear that the developement of the mental faculties is in the inverse ratio of the quantity of the cerebro-spinal liquid; and this, to a certain extent, is easily understood, as the volume of the fluid can only increase at the expense of the solid mass of the brain.

I may add, that it is not merely necessary that the liquid shall not be too abundant, but also that its movement be free. I lately found, in the brain of an old opera singer, who died idiotic at the Salpetriere, an obliteration of the opening by which the liquid enters the ventricles; and as there was no other disorganization, I am inclined to think that this obliteration was the cause of the malady.

PATHOLOGY.

Case of Rupture of the Stomach produced by Vomiting; with Observations.

By J. N. Weeks, M.R.C.S. and House Surgeon at St. Bartholomew's Hospital.—G. Andover, æt. thirty-four, had been liable for about two years to paroxysms of pain in the stomach. The pain usually continued for several hours, and generally went off with vomiting; and it returned at uncertain intervals, frequently of many weeks. Between the attacks the patient enjoyed tolerably good health. About Christmas last, he vomited a large quantity of blood, which rendered him so feeble that he was confined to his bed for five weeks. Since that time his health has been much impaired, and the attacks of pain, followed by vomiting, have been more frequent.

On the evening of April 13th, he was brought to St. Bartholomew's Hospital, where I first saw him. He was then suffering great pain, extending from the epigastric region over the whole abdomen, and accompanied by nausea; there was neither tenderness nor tension of the abdomen; the pulse was frequent, tongue clean. He had shortly before his admission drunk some shrub and water, to which he in a great measure attributed these symptoms, and told me he had had a similar attack about a week ago, after indulging in spirituous liquors, and that it went off with vomiting.—On the following day, the pain had subsided; there had been no vomiting, but he complained of nausea; the abdomen was distended by flatus, and he had frequent eructations; the pulse was weak, tongue natural.

At eleven o'clock P. M. he had a sudden attack of most severe pain. I was called to him about an hour afterwards, and found him groaning with agony at the pit of the stomach; the abdominal muscles were hard and contracted; the belly was neither painful, nor tender on pressure; his pulse was small and feeble; he was extremely restless, and his countenance expressive of the greatest suffering. I instantly gave him sixty drops of tincture of opium; and, as he found no relief, they were repeated, but without benefit. He continued to suffer most acute pain for about two hours, when he was suddenly seized with violent vomiting. After this, the pain somewhat abated; there was no return of vomiting, but he sunk rapidly, and died at four o'clock in the morning.

Examination.—On opening the abdomen, the stomach was observed to be flaccid and empty, and its contents, which consisted of a large quantity of dark-brown fluid, were effused into the peritoneal cavity, through a ragged opening situated on its anterior surface, and near the œsophageal orifice. The rupture extended from below the lesser arch of the stomach to near its cardiac extremity, and was about four inches in length. The three membranes were not torn equally, the rupture of the peritoneal covering extending an inch farther than that of the muscular or mucous coat. On the posterior surface of the stomach was a laceration, measuring three inches in length; and there were two or three small ones, from an inch to an inch and a half in length, at its great arch. These lacerations extended only through the peritoneal coat of the stomach, the muscular and mucous tunics remaining perfectly whole. The mucous mem-

brane of the stomach was lined with a great deal of dark-coloured secretion, beneath which the membrane itself was of a deep red colour throughout; its texture was softened and partially emphysematous. The stomach in other respects appeared healthy; the liver was pale and softened; the gall-bladder contained a calculus; the structure of the spleen was unusually soft. The other viscera was healthy.

The most remarkable feature in the preceding case is the extensive rupture of the stomach, with so little disease of its coats; and in this respect it forms a striking difference to those cases hitherto related. The stomach presented no thickening nor ulceration at the part which was ruptured: the disease was confined to its mucous tunic, and appeared to be recent inflammation and softening of its texture. It may also be remarked, that the symptoms in this case were not such as generally indicate the existence of organic disease; there were considerable intermissions of the symptoms, the patient had enjoyed tolerably good health, and there was no emaciation.

The only case I have met with of rupture of the coats of the stomach, produced by an act of vomiting, or rather attempting to vomit, is recorded by Lallemand, and is described in the 49th volume of the Dictionnaire des Sciences Médicales, art. *Rupture.*

The patient had laboured under difficult digestion for five or six months, and had been much relieved by observing a strict regimen. After indulging her appetite to a greater extent than usual, she was attacked with uneasy feelings in the stomach, accompanied by nausea and inclination to vomit. She made violent but ineffectual efforts to discharge the contents of the stomach, and, whilst suffering great agony, experienced intense pain, with a sense of tearing at the lower part of the belly: she uttered several screams, and fell down insensible. She sunk rapidly, and died in the night. On dissection, the cavity of the peritoneum was found full of half-digested food; the anterior and middle part of the stomach was torn obliquely from its small towards its great curvature, to the extent of five inches. The edges of the rupture were thin, irregular, and presented no marks of disease. The three coats of the stomach were not torn to an equal extent, nor exactly in the same direction: the rupture in the peritoneal was larger than the muscular coat, and the mucous membrane was the least extensively lacerated. A mass of scirrhus, an inch and a half in extent, surrounded the pylorus. The other parts of the stomach were perfectly healthy.—*Medico-Chirurg. Transactions,* Vol. XIV. Part 2.

SURGERY.

Case of Extirpation of the Uterus. By Dr. Blundell.—Mrs. A. B. æt. fifty, of gray eyes, tranquil disposition, broad in her make, and disposed to obesity, was seized with offensive discharge from the vagina, soon followed by eruptions of blood in large quantity; so that, according to her own re-

port, frequent faintings were produced, and the blood occasionally sank through a bed about twice as thick as a sofa cushion, collecting on the floor; and day after day, for months together, with little intermission, one or two pints of blood were discharged.

Although Mrs. A. B., in her general conversation, is by no means prone to hyperbole, it seems evident that she must have greatly overrated the quantity of these daily floodings. Certain however it is, from her repeated and considerate declarations, that very large quantities of blood were lost during a period of many months; and though, with the exception of some small œdema of the legs, there were no signs of general dropsy, the paleness, coldness and weakness, and the frequent attacks of faintness, or complete delirium, showed pretty clearly that much vascular inanition had been produced. In other particulars, the patient's condition was not altogether discouraging; for the bowels were regular, and the appetite was occasionally good; and the appearance, though cachectic, and perfectly similar to that of other women perishing under malignant ulceration of the uterus, was not such as to indicate a constitution wholly unfit for surgical operation.

The woman having been under the care of three or four different practitioners before I saw her, I deemed it proper to examine immediately with great attention: when I found that the womb was moveable, and about as large as a goose's egg; that its mouth was broad, open, and of cartilaginous hardness; that it manifested the usual marks of malignant disorganization, in which also about one-fourth of the contiguous vagina was involved; and further, that on the surface of the diseased mass was formed an ulcer, about as broad as a shilling. The adjacent structures appeared to be healthy enough; the bladder and rectum were sound; the inguinal glands were not enlarged, whence it was presumed that the lumbars were perhaps healthy; the ovaries could not be felt to exceed their ordinary bulk; and there evidently was no tangible enlargement of the liver, spleen, kidneys, or omentum, all of which were examined with the nicest care. The breathing was easy; the pulse, various in its frequency, ranged between 115 and 120 in the minute; and the patient, though certainly very much debilitated, had sufficient remains of strength to walk to my house, (the distance of a furlong,) though not without considerable difficulty.—To be short, it seemed clear at this time that the case was ulcerated carcinoma of the uterus, as it is called, and that extirpation was the only remaining remedy.

The bowels having been cleared, and the patient being resolved to submit to the operation, on the 19th of February, 1828, I determined to remove the diseased parts without further delay. For this purpose, having placed the woman in the obstetric position usual in this country, (on the left side, I mean,) close upon the edge of the bed, with the loins posteriorly, the shoulders advanced, the knees and bosom mutually approximated

and the abdomen directed a little downwards towards the bed, I began the operation.

First Stage of the Operation.—I commenced by passing the index and second finger of the left hand to the line of union between the indurated and healthy portions of the vagina; the finger being converted into a cutting instrument, (varying with the exigencies of the operation,) by means of a moveable knife, which requires a word or two of description. The blade of this knife, not unlike that of a dissecting scalpel, was mounted upon a long slender shank, which, including its large handle, was about eleven inches in length; and with this stem the blade was united, so that its flat, or plane, formed with the stem an angle of fifteen or twenty degrees. The first and second fingers of the left hand then being in the back of the vagina, contiguous to the diseased mass, (as before observed,) by taking the stem-knife in my right hand, I could at pleasure lay the flat of the blade upon the front of these fingers, and urge the point of the instrument a little beyond the tip. The apex of the forefinger being in this manner converted into a cutting point, by little and little I gradually worked my way through the back of the vagina, toward the front of the rectum, so as to enter the recto-vaginal portion of the peritoneal cavity, frequently withdrawing the stem-scalpel, so as to place the point within the tip of the finger, and then making examination with great nicety, in order to ascertain whether the vagina was completely perforated, minute care being necessary in this part of the operation to avoid wounding the front of the intestine.

Second Stage of the Operation.—A small aperture having been formed in this manner in the back of the vagina, through this opening the first joint of the forefinger was passed, so as to enlarge it a little by dilatation and slight laceration, (safer than incision.) This done, and a cutting edge being communicated to the finger, by placing the plane of the blade in such a manner that its incisory edge lay slightly advanced beyond the side of the finger now lying in the aperture, after drawing the point of the instrument within the tip of the finger, which operated as a guard, I proceeded to make an incision through the vagina transversely,—that is, in a direction from hip to hip; for this purpose carrying the finger with its cutting edge, from the opening in the vagina already made, to the root of the broad ligament on the left side, so as to make one large aperture. I then took a second stem-scalpel, formed on the same model as the preceding, with this difference, that the incisory edge lay on the other side of the blade; and laying this instrument on the fore-finger as before,—in such a manner, however, that the cutting edge lay forth on the other side of the finger, (to the right of the pelvis, I mean,)—I carried the finger thus armed from the middle of the vagina, where the former incision commenced, to the root of the broad ligament on the right side; so that, at the end of this, which was the second step of the operation, the diseased and healthy portions of the vagina behind became completely detached from

each other by a transverse incision, which stretched across the vagina, between the roots of the broad ligaments immediately below the diseased parts. At this time the intestines could be felt hanging about the tips of the fingers; but the blade of the scalpel lying on the finger, in which it was as it were imbedded, the risk of a wound, whether by point or edge, was completely prevented.

Third Stage of the Operation.—The back of the vagina, then, having been divided in this manner, I urged the whole of the left hand, not of large size, into the vaginal cavity, and the more easily because the woman had borne children; afterwards passing the first and second fingers through the transverse opening along the back of the uterus,—this viscus lying, as usual, near the brim of the pelvis, with its mouth backward, its fundus forward, and a little elevated just above the symphysis pubis. This manœuvre premised, under full protection of these fingers, now lying between the womb and the intestine, taking a double hook, mounted on a stem eleven inches long, I passed it into the abdominal cavity, through the transverse aperture, along the surface of the fingers already mentioned; and laying it in front of them, near their tips, I converted these fingers into a sort of sentient tenaculum, which, with little pain to the patient, I pushed into the back of the womb, near the fundus, and then drawing the womb downward and backward, towards the point of the os cocygis, as I carried the fingers upward and forward, I succeeded ultimately in placing the tips over the fundus in the manner of a blunt book; after which, by a movement of retroversion, the womb was very speedily brought downwards and backwards into the palm of the left hand, then lodging in the vagina where, at this part of the operation, the diseased mass might be seen distinctly enough lying just within the genital fissure.

Fourth Stage of the Operation.—The process of removal being brought to this point, the diseased structure, still in the palm of my hand, remained in connexion with the sides of the pelvis, by means of the fallopian tubes and broad ligaments, and with the bladder by means of the peritoneum, the front of the vagina, and the interposed cellular web,—parts which were easily divided, so as to liberate the mass to be removed. The broad ligaments were cut through, close upon the sides of the uterus; and, in dividing the vagina, great care was taken to keep clear of the neck of the bladder and the ureters. This division of these attachments, and the removal of the diseased mass, constituted the fourth step of the operation.—Some bits of indurated vagina, altogether not larger than the common bean, were left in the pelvis, to be removed at some future period, should symptoms require. This fact is worth recording.

To this circumstantial account of the operation may be added a few remarks. The intestines did not protrude. About an ounce of blood was lost when the back of the vagina was divided, three or four more ounces following when the vagina was cut in front. Ligatures, tenacula, and

forceps, were in readiness to secure the vessels, but these were not required.

The intestines were felt at one time only, namely, when two fingers were lying out through the opening in the vagina behind. Of course, some pain was felt when the first incisions were making, and when as in ordinary obstetric operations, the hand was urged into the vagina; but the principal distress was occasioned by drawing down the uterus, when the retroversion was accomplished, and the ligaments were put upon the stretch.

The pains and complaints scarcely exceeded those observed in instrumental deliveries. The patient lay in the ordinary obstetric position, and required no restraint. The insertion of the hook into the back of the uterus did not occasion much suffering. The operation, from first to last, occupied about an hour; but much of this time was spent in reposing, and considering what might best be done. With better instruments and greater activity, the whole operation might most probably be completed in five minutes. In obstetrics, however, celerity is considered to be in itself a secondary merit, and the operation was conducted on obstetric principles. The general range of the pulse was between 120 and 130, a frequency common in delivery by instruments.

When the last gush of blood was observed, the pulse became imperceptible in the wrist; returning, however, in the course of ten or fifteen minutes. A few ounces of spirit were administered to the patient as the operation proceeded. Throughout the process the forefinger of the left hand was the principal instrument, and the scalpels and hooks were employed merely as the means of arming the finger for its various operations.

The professional friends who favoured me with their presence were, Dr. Elliotson, Mr. Callaway, Mr. B. Cooper, Mr. Key, and Mr. Morgan.—An accident deprived me of the presence and assistance of my friend Dr. Roots.

The operation was not undertaken at a venture, but in conformity with certain principles laid down in two papers read before the Medico-Chirurgical Society; the first of them in the year 1819, and the last in the year 1823. The latter, which was not published, contains the proposals for other abdominal operations. The fundamental principles of these operations, as there stated, are rested upon numerous observations made upon the human body, and a sufficient number of experiments upon brutes.—Should the case here narrated come before the eyes of the public, I hope it may tend to diminish any unreasonable prejudices against experiments and experimenters. The feeling is respectable, but by the designing it may be misdirected. In Lisfranc's operation I conceive there must be some misapprehension. I think I run no risk in saying that by his method of procedure, as understood here, what the English accoucheur means by cancer of the uterus must frequently be irremovable.

It is now five months since the parts were extirpated, and the patient is fat and well, and designs to return to her husband. The interception of the access to the ovaries is a complete security against extra-uterine impregnation. The head of the vagina is closed by the bladder, which lies upon it. The recovery was easy enough, but as the details may perhaps be deemed desirable, they shall be communicated at an early opportunity.—The patient had been ill for eight or nine months before the operation was performed.—*Medical Gazette.*

CHEMISTRY.

Bitter of Aloes. Carbazotic Acid.—It is well known that the peculiar substance produced by the action of nitric acid upon aloes, combines with bases, and forms salts which detonate by heat; this substance is the aloetic acid of Braconnot. Mr. Liebeg formerly made some experiments on this substance, but they were not satisfactory. He has lately renewed his experiments, and finds that the detonating principle is carbazotic acid.

The bitter of aloes is plentifully obtained by the action of nitric acid of p. gr. 1.25. With potash it forms a purple salt, which is but slightly soluble, which precipitates the salts of barytes, lead and peroxide of iron in flocks of a deep purple colour; the proto-nitrate of mercury is precipitated of a light red. In order to decompose the salt of potash, it was decomposed by acetate of lead; and contrary to all expectation, the weight of the precipitate was less than that of the potash—salt employed. The washings were of a yellow colour, and deposited crystals of the same. These crystals, treated with heat and sulphate of potash, yielded carbazotate of potash, from which the carbazotic acid was separated.

When aloes are heated with nitric acid of 1.432, as long as vapours of nitrous acid are disengaged, and on afterwards mixing the liquor with a little water to separate the bitter, there may be obtained by saturating the liquor with potash and evaporation, a large quantity of carbazotate of potash in fine crystals. The bitter of aloes is consequently a compound of a peculiar substance, possessing the properties of the rezins and carbazotic acid.

Wool, morphia, narcotine and myrrh, yielded no carbazotic acid when treated with nitric acid.—*Phil. Mag. and Annals.* Vol. 4. p. 67.

Anhydrous crystals of Sulphate of Soda.—When a solution of sulphate of soda is allowed to evaporate spontaneously, crystals will be produced, which by their form and by their efflorescence are distinguished as the salt in question. Most of the salts of potash and soda may be distinguished as to their base by such an experiment. They are easily converted into sulphates by a drop or two of sulphuric acid and ignition; and then being dissolved and tried as above, will yield crystals, which may be known by their forms and more especially by their efflorescence if of soda, and their unchangeable state if of potash. This test is, however, in some circumstan-

ces liable to uncertainty, arising from a curious cause. If the solution be allowed to evaporate at common temperatures, then the efflorescence takes place, and the distinction is so far perfect; but if the solution be placed upon a warm part of a sand-bath or hot iron plate, or in any other situation of a certain temperature considerably beneath the boiling point of the solution, the crystals which are left upon evaporation of the fluid are smaller in quantity, more similar in appearance to sulphate of potash, and finally *do not* effloresce. Upon examining the cause of this difference, I found they were *anhydrous;* consequently incapable of effloresing, and indeed exactly of the same nature as the crystals obtained by Dr. Thompson from certain hot saturated leys.—*Ann. Phil. N. S.* xx. 201.

Hence it would appear that a mere difference in the temperature at which a solution of sulphate of soda is evaporated, will cause the formation of hydrated or anhydrous crystals at pleasure, and that whether the quantity of the solution be large or small. This indeed might have been expected from that which takes place when hydrated crystals of sulphate of soda are carefully melted; a portion dissolves, and a portion separates, the latter in an anhydrous state. I find, that, if it were desirable, crystallized anhydrous sulphate of soda might easily be prepared for the market; though as the pure salt is now but little used, it is not likely this condensed form will be required. Whenever a soda salt is to be distinguished from one of potash, in the manner above described, this effect of temperature must be carefully guarded against.—*Farraday in Brande's Jour. N. S.*. Vol. 3. p. 223.

I have not unfrequently met with, in commercial samples of sulphate of soda, crystals which did not effloresce upon exposure to air. They were undoubtedly the anhydrous crystals above described, and were formed during the rapid evaporation of the solution.—L. C. B.

On the influence of the Air in determining the crystallization of Saline solutions.—In the number of the "Philosopical Magazine and Annals" for September last, Mr. Thomas Graham has given a satisfactory explanation of a fact which has long puzzled chemists. The fact to which we refer is as follows. When a phial is filled with a boiling saturated solution of Glauber's salt, and its mouth immediately stopped by a piece of bladder tied tightly over it while it is hot, the solution will cool without crystallizing, and will continue entirely liquid for hours and even days, although it contains a great excess of salt. If the bladder, however, is punctured, and the air admitted, the solution is immediately resolved into a spongy crystalline mass, with the evolution of much heat. From numerous experiments which appear to be unexceptionable, Mr. Graham concludes, *that air determines the crystallization of supersaturated saline solutions by dissolving in the water, and thereby giving a shock to the feeble power by which the excess of salt is held in solution.*

The expansion of the whole mass when it becomes solid is shown by Mr. Graham to be entirely a momentary dilatation of the whole contents of the phial, both liquid and solid, by the evolution of heat, which occurs at the instant of crystallizing, and which always amounts to 20° or 30° Fahr.

It should be observed, that M. Gay Lussac, in his paper on crystallization (*Ann. de Chim.* tom. 87.) had distinctly thrown out the same theory as a conjecture, although the circumstance is not noticed by any systematic chemical writer. But as Mr. Graham observes, Gay Lussac brings forward no experimental illustrations of the theory, and indeed adduces one experiment as unfavourable to it, the experimental confirmation of the theory is novel, and was certainly required.

Preparation of Conia, the Alkali of the Conium Maculatum. By M. Brandes.—The best method of obtaining this alkali is to digest the fresh herb in alcohol during some days, afterwards evaporating the filtered alcohol, agitating the residuum with water and treating this mixture either with alumina, magnesia, or oxide of lead; the whole is to be evaporated to dryness, and the residuum obtained treated with a mixture of alcohol and ether, which when again evaporated, leaves the *conia*. This substance which was discovered and also named by M. Peschier, possesses very marked alkaline properties. According to M. Giseke, the aqueous solution forms, with the tincture of iodine, an abundant reddish precipitate; it renders tincture of galls slightly brown, precipitates muriate of zinc and nitrate of mercury of a dirty yellow; renders carbonate of potash and soda slightly turbid; gives a brown colour to muriate of platina; and produces a white precipitate with the nitrates of silver and barytes, the acetate of barytes and lead, muriate of lime and lime water.

Half a grain of conia is sufficient to kill a rabbit; the symptoms which occur resemble those produced by strychnia.—*Phil. Mag. & Ann.* Vol. iv. p. 231.

An account of the formation of the Alcoates, definite compounds of salts and alcohol analogous to the hydrates. By Thomas Graham.—The October number of Dr. Brewster's Journal contains a notice of this paper which has been recently published in the Transactions of the Royal Society of Edinburgh. The bodies here described are definite solid compounds of salts and alcohol, analogous to the hydrates, and are perfectly crytallizable. Those which Mr. Graham succeeded in forming are not numerous. They were obtained simply by dissolving the salts, previously rendered anhydrous, in absolute alcohol, with the aid of heat. Upon cooling, the alcoates were deposited in the solid state. The crystallization was generally compound, but in some cases singular crystalline forms appeared. The crystals are transparent, decidedly soft, and easily fusible by heat in their

alcohol of crystallization, which is generally considerable, amounting in one instance to near three-fourths of the weight of the crystals.

The following are the alcoates obtained :

1. *Alcoate of Chloride of Calcium*, consisting of

Chloride of Calcium,	2 atoms	=	112
Alcohol,	7 atoms	=	161
			273

2. *Alcoate of Nitrate of Magnesia*, consisting of

Nitrate of Magnesia,	1 atom	=	74
Alcohol,	9 atoms	=	207
			281

3. *Alcoate of Nitrate of Lime*, consisting of

Nitrate of Lime,	2 atoms	=	164
Alcohol,	5 atoms	=	115
			279

4 *Alcoate of Protochloride of Manganese*, consisting of

Protochloride of Manganese,	1 atom	=	64
Alcohol,	3 atoms	=	69
			133

5. *Alcoate of Chloride of Zinc*, consisting of

Chloride of Zinc,	2 atoms	=	140
Alcohol,	1 atom	=	23
			163

Mr. Graham considers it probable that many more alcoates of salts may be formed, particularly of the metallic chlorides; but the great obstacle to their formation is the difficulty and frequently the impossibility of rendering the salts perfectly anhydrous before their solution in alcohol is attempted.

DOMESTIC.

Copy of a Letter from G. K. LAURENCE, *Physician, of New-Lebanon, to* J. P. CARROL, *of New-York, dated Nov.* 4, 1828.

"WORTHY FRIEND,

"In answer to your inquiries respecting my opinion of the Medicated Vapour Bath, I cheerfully state, that I consider it, in judicious hands, one of the most efficient means of preserving health and

removing the various diseases to which human flesh is heir. It is about six years since we introduced the Medicated Vapour Bath to use in our Society; and in this period I have witnessed its beneficial effects in a great variety of cases. Experience has taught us to consider the bath one of the readiest and most powerful, as well as pleasant means of removing diseases, and we have a bath in almost every family. Owing to certain endemical causes, we are liable in this section to attacks of typhus, bilious, and autumnal fevers in the warm season; and fevers of the inflammatory type in the cold weather. But for five years past, in every case where the bath has been given, we have not had a fever run on three days. Our usual course has been, to cleanse the stomach and bowels at the onset, and then sweat the patient thoroughly in the bath. By this course, we find by experience, that at least seven-eighths of fevers can be cut short at once. By a reference to the case-book, I find that the beneficial effects of the bath have been very apparent in dropsy, rheumatism, tetanus, spasms, eruptions, measles, hooping cough, fevers of various kinds, inflammations, erysipelas, and diseased lungs. Common colds are removed at once, by a timely application of the bath; and dysentery, which often arises from obstructed perspiration, is immediately relieved by restoring the healthy functions of the cutaneous vessels. Appropriate medicines must also be given; but the enlightened physician will find in the Medicated Vapour Bath a powerful adjunct to his various remedies. By the bath we are enabled, *to a certainty*, to produce that moist state of the skin which the physian ever regards as favourable in all diseases. But it is essential and should ever be kept in mind,that the alimentary canal should be in a tolerably open state and freed from foul accumulation before giving the bath. The reason is obvious.

"The general tendency of the bath is to quicken the pulse while in, unless such medication is used as counteracts the stimulating effects of the heat. By employing sedative plants, such as digitalis, I have often reduced the pulse twenty beats per minute; and this effect would last for twenty-four hours after coming out. Hence the utility of the bath in cases of spitting of blood and consumption; for we are enabled in the form of vapour to apply the remedy to the extensive surface of the tissues of the lungs, while at the same time the skin is brought into the best possible state to facilitate the cure. In so formidable a disease as this, the bath is not to be relied on as the only necessary remedy; on the contrary, nothing should be omitted which the experience of the most skilful physician may deem proper.

As a general remedy for cough and lung complaints, the liverwort in decoction is certainly worthy of a thorough trial, either in the simple form of a decoction, or the more powerful form of concentrated syrup.—This, with the bath, I have known to perform astonishing cures.

"I remain, your devoted Friend,

"G. K. LAURENCE."

UNIVERSITY REGISTER.

Catalogue of the Regents of the Univerity of the State of New-York, from the establishment of the University.

Date of election or appointment.	NAMES.	Exitus.
1787	George Clinton, Governor, *ex officio*,	1795
1795	John Jay, Governor, *ex officio*,	1801
1801	George Clinton, Governor, *ex officio*,	1804
1804	Morgan Lewis, Governor, *ex officio*,	1807
1807	Daniel D. Tompkins, Governor, *ex officio*,	1817
1817	De Witt Clinton, Governor, *ex officio*,	1822
1822	Joseph C. Yates, Governor, *ex officio*,	1824
1824	De Witt Clinton, Governor, *ex officio*,	1828
1787	Pierre Van Cortlandt, Lieut.-Governor, *ex officio*,	1795
1795	Stephen Van Rensselaer, Lieut.-Governor, *ex officio*,	1801
1801	Jeremiah Van Rensselaer, Lieut.-Governor, *ex officio*,	1804
1804	John Broome, Lieut.-Governor, *ex officio*,	1812
1812	De Witt Clinton, Lieut.-Governor, *ex officio*,	1814
4814	John Taylor, Lieut.-Governor, *ex officio*,	1822
1822	Erastus Root, Lieut.-Governor, *ex officio*,	1824
1824	James Tallmadge, Lieut.-Governor, *ex officio*,	1826
1826	Nathaniel Pitcher, Lieut.-Governor, *ex officio*,	

1787, Apr. 13.	Rev. John Rodgers, D.D.	died 1811
Do.	Hon. Egbert Benson, LL.D.	resigned 1802
Do.	Hon. Philip Schuyler,	died 1804
Do.	Hon. Ezra L'Hommedieu,	died 1811?
Do.	Rev. Nathan Kerr,	died 1804?
Do.	Hon. Peter Sylvester,	died 1808?
Do.	Hon. John Jay, LL.D.	resigned 1790
Do.	Rev. Dirck Romeyn, D.D.	resigned 1796
Do.	Hon. James Livingston,	resigned 1707
Do.	Hon. Ebenezer Russel,	resigned 1813
Do.	Hon. Lewis Morris,	died 1798?
Do.	Hon. Matthew Clarkson,	died 1825
Do.	Right Rev. Benjamin Moore,	resigned 1792
Do.	Rev. Eliardus Westerlo, D.D.	died 1790
Do.	Rev. Andrew King,	died 1815
Do.	Rev. William Linn, D.D.	died 1808
Do.	Hon. Jonathan G. Tompkins,	resigned 1808
Do.	Rev. John McDonald,	resigned 1796
Do.	Frederick Wm. Baron De Steuben,	died 1794

Date of election or appointment.	NAMES.	Exitus.
1790, Mar. 30.	Hon. Gulian Verplanck,	died 1800
1701, Jan. 15.	Hon. Zephaniah Platt,	died 1807
1795, Jan. 28.	Hon. James Watson,	died 1806
1796, Feb. 18.	Hon. James Cochran,	resigned 1819
1796, Mar. 24.	Rev. Jonas Coe, D.D.	declined accepting
1797, Jan. 11.	Hon. Abram. Vanbechten, LL.D.	resigned 1823
1797, Feb. 28.	Rev. Thomas Ellison,	died 1802
1798, Mar. 13.	Simeon De Witt, Esq.	
1800, Feb. 3.	Hon. James Kent, LL.D.	vacated 1816
1802, Feb. 1.	Hon. John Taylor,	
1802, Feb. 15.	Henry Rutgers, Esq.	resigned 1826
1802, Feb. 18.	Hon. Charles Selden,	vacated 1816
1805, Jan. 28.	Hon. Ambrose Spencer, LL.D.	vacated 1816
Do.	Hon. Lucas Elmendorf,	vacated 1822
1807, Feb. 11.	Hon. Elisha Jenkins,	
1808, Feb. 11.	Hon. De Witt Clinton, LL.D.	resigned 1825
Do.	Gen. Peter Gansevoort,	died 1812
Do.	Hon. Alexander Sheldon,	vacated 1816
1809, Jan. 31.	Hon. Nathan Smith,	vacated 1822
1812, Feb. 28.	Hon. Joseph C. Yates,	
1812, Feb. 28.	Solomon Southwick, Esq.	resigned 1823
1813, Mar. 3.	Hon. Smith Thompson,	resigned 1819
Do.	Hon. John Woodworth,	resigned 1822
1816, Mar. 4.	Hon. Martin Van Beuren,	
1817, Jan, 28.	Hon. John Lansing, jun.	
Do.	Rev. John De Witt, D.D.	resigned 1823
Do.	Hon. Samuel Young,	
Do.	Hon. Nathan Williams,	vacated 1824
1819, Mar. 16.	Hon. Stephen Van Rensselaer, LL.D.	
1820, Feb. 1.	Hon. William A. Duer,	vacated 1824
1822, Feb. 7.	Hon. James Thompson,	
Do.	Hon. Harmanus Bleecker,	
1823, Feb. 14.	Samuel A. Talcott, Esq.	
Do.	James King, Esq.	
Do.	Peter Wendell, M.D.	
1823, Apr. 9.	William L. Marcy, Esq.	
1821, Feb. 13.	Hon. Peter B. Porter,	
Do.	Hon. Robert Troup,	resigned 1827
1825, Jan. 12.	John Greig, Esq.	
1826, Jan. 26.	Jesse Buel, Esq.	
Do.	Hon Gulian C. Verplanck,	
1827, Feb. 20.	Hon. Edward P. Livingston,	

Officers of the Board of Regents.

CHANCELLORS OF THE UNIVERSITY.

Date of appointments.	NAMES.	Exitus.
1787, July 17.	George Clinton,	1796
1796, Jan. 20.	John Jay,	1802
1802, Feb. 15.	George Clinton,	1805
1805, Feb. 4.	Morgan Lewis,	1808
1808, Feb. 8.	Daniel D. Tompkins,	1817
Do.	John Tayler,	

VICE-CHANCELLORS.

1787, July 17.	Hon. John Jay,	1790
1790, Mar. 31.	Rev. John Rodgers, D.D.	1808
1808, Feb. 8.	Rev. John Rodgers, D.D. (re-appointed)	1811
1814, Mar. 14.	John Tayler,	1817
1817, Feb. 3.	Simeon De Witt.	

SECRETARIES.

1787, July 17.	Richard Harrison,	1790
1790, April 7.	Nathaniel Laurence,	1794
1794, Jan. 21.	De Witt Clinton,	1797
1797, Jan. 23.	David S. Jones,	1798
1798, Mar. 19.	Francis Bloodgood,	1814
1814, Mar. 25.	Gideon Hawley.	

TREASURERS.

1790, Mar. 31.	Gerard Bancker,	1798
1798, Mar. 19.	Francis Bloodgood.	

Historical account of the Medical Department of the University of the State of New-York.

[Continued from p. 320.]

On the 3d of April 1807, the Regents proceeded to make the following appointments in their newly organized College.

Samuel L. Mitchill, M.D. Professor of Chemistry.

Edward Miller, M.D. Professor of the Practice of Physic.

David Hosack, M.D. Professor of Botany and Materia Medica.

Archibald Bruce, M.D. Professor of Mineralogy.*

Benjamin De Witt, M.D. Professor of the Institutes of Medicine.

At the same meeting also, in consequence of a suggestion that foreign correspondence might prove of importance to the College, the following gentlemen were appointed Honorary Members.

Andrew Duncan, M.D. Professor of Medicine, Edinburgh.
James Home, M.D. Professor of Materia Medica, do.
Thomas C. Hope, M.D. Professor of Chemistry, do.
James Hamilton, M.D. Physician to the Royal Infirmary, do.
Robert Percival, M.D. Professor of Chemistry, Dublin.
Trebur M. Themman, M.D., Amsterdam.
Sir John M. Hayes, M.D. London.
John Cooke, M.D. do.
Robert Willan, M.D. do
Andrew Bain, M.D. do.
James E. Smith, M.D. do.
William Heberden, M.D. do.
Alexander Crichton, M.D. Physician to the Emperor of Russia.
P. Pinel, M.D. Paris.
D. Desgenettes, M.D. do.
Benjamin Rush, M.D. Professor of the practice of Physic, Philadelphia.
Caspar Wistar, M.D. Professor of Anatomy, do.
Targioni Tozetti, M.D. Italy.

On the 6th of April, John R. B. Rodgers, M.D. was appointed Professor of Midwifery, and the Regents then adjourned until the next session of the Legislature.

In their Annual Report of this year the following remarks occur.

"The Regents further report, that they have during the present session, incorporated a College of Physicians and Surgeons in the city of New-York. From attentively observing the state of medical instruction in our principal city for several years past, and comparing it with that of a neighbouring state, they are persuaded such an institution has become highly requisite, and they flatter themselves that its character will soon become such as the population and importance of the state authorise us to expect."

On the 8th of February 1808, the Regents commenced their annual session. The resignation of Dr. Rodgers, as Professor of Midwifery, was communicated and accepted. A memorial and report from the College of Physicians and Surgeons was received and referred to Mr. De Witt, Mr. Jenkins and Mr. Taylor. This committee reported on the 22nd, and from their report, it appeared that the College had opened and commenced its business in a manner that promises to answer all the expectations enter-

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* In the Historical sketch of the College, printed 1813, Dr. Bruce's name is omitted.

tained by the Regents in its establishment. The memorial states that it will be important to the stability and usefulness of the Institution, if the Regents would exercise the power they have reserved of appointing the President, Vice-President, Register, Treasurer and Censors of the College for the term of five years. Your committee can see no reasonable objections to acceding to this proposition, and I have prepared a draft of an ordinance, &c.

After discussing the draft, it was on the 3d of March adopted. We give its leading details as briefly as possible.

Such part of the ordinance establishing the College as grants to it the corporate rights of electing by ballot at their anniversary meeting, a President, Vice-President, Register, Treasurer, and thirteen Censors, is revoked, and the right of appointing those officers is vested in the Regents, and the offices are to be held during their pleasure, provided however that in case of the death or resignation of any person appointed to an office in the said College, a majority of the legal trustees present at a meeting, are authorised to appoint a proper person to said office *pro tempore*, until the pleasure of the Regents be known.

All the members or trustees of the College named in the Charter, residing in the city of New-York, shall, on or before the 1st of May next, and those residing out said city, shall on or before the 1st of November next, declare in writing to the President or Register, their acceptance of said office, and those who shall neglect or refuse to signify their acceptance, are declared to be displaced, and are no longer trustees.

All Presidents, Vice-Presidents, Registers, Treasurers, and Censors, hereafter to be appointed, shall sign a declaration promising faithfully to perform their duties, and in default of doing this, within one month after receiving official notice of their appointment, the office shall be vacated.

The President, Vice-President, Register, Treasurer, and Professors shall constitute a Senatus Academicus, who are ordered to make such ordinances as they may deem expedient for their own government, and for the government of the students of the College, and for promoting their education.

Such part of the Charter as requires twenty-one members to form a board is revoked, and thirteen members are declared a quorum.

On the 21st of March 1808, a committee reported that it would be expedient to establish the following eight professorships—of the Practice of Physic—of Botany and Materia Medica—of Mineralogy—of Anatomy and Surgery—of Chemistry—of the Institutes of Medicine—of Midwifery—and of Natural History.

Owing to Dr. Mitchill's situation as senator in Congress, he was unable to attend his duties as Professor of Chemistry, and therefore offered to resign that place. Dr. De Witt, who was acting as Lecturer on Chemistry, could not attend as he desired to the Professorship of the Institutes. The committee therefore recommend that the respective resignations be accept-

ed, and that the vacancies in the five last named professorships be filled. This was agreed to, and the following appointments were made:

Dr. John Augustine Smith, Professor of Anatomy and Surgery.
Dr. Benjamin De Witt, Chemistry.
Dr. Nicholas Romayne, Institutes of Medicine.
Dr. William James Macneven, Midwifery.
Dr. Samuel L. Mitchill, Natural History.

The following officers of the College were also appointed:

Dr. Nicholas Romayne, President.
Samuel L. Mitchill, Hugh Williamson, } Vice-Presidents.
Archibald Bruce, Register.
John D. Gillespie, Treasurer.

Censors.

James G. Graham, of Ulster County.
Peter C. Adams, Greene.
Westel Willoughby, Herkimer.
Lyman Cook, Westchester.
David R. Arnell, Orange.
John Stearns, Saratoga.
Henry M. Van Solingen, New-York.
Samuel Torbert, do
John D. Jaques, do.
George W. Chapman, do.
John C. Osborn, do.
Andrew Hunt, do.
Joseph Bloodgood, do.
Dr. John A. Smith, John C. Osborn, } Trustees.

On the 4th of April 1808. The resignation of Dr. David Hosack, as Professor of Botany and Materia Medica, was received and read.

Resolved that the same be accepted.*

It was further resolved that the Professorship of Botany and Materia Medica be abolished, and that Botany be annexed to the Professorship of Natural History and Materia Medica, to that of the Institutes of Medicine.

In the Annual Report of the Regents it is stated, that the number of Students attending the College is 53.

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* It was immediately previous to the acceptance of this resignation, that the following letter was presented to the Regents. We copy it with the commentary accompanying it, from a pamphlet entitled "*An Exposition of the Transactions relative to the College of Physicians and Surgeons in the city of New-York, from its establishment until the assumption of the Charter by the Regents of the University* New-York, 1812. The authenticity of the letter has never been denied.

The following appear on the Minutes of the Regents for 1809. On the 13th of February.

" Be it ordained, that it shall be the duty of the Professors of the Univer-

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" Dr. Hosack has accused himself in one of his publications, of being engaged in dissentions and feuds, during the short time he was a member of the College. This, however, is incorrect; as the Doctor conducted himself with order and decency, and from his proper behaviour he was appointed the Lecturer on Midwifery and Surgery, by his fellow members. The Regents, however, refused to sanction the proceedings of the College in favour of Dr. Hosack, and appointed Dr. Smith to be the Professor of Surgery, and Dr. Macneven to be the Professor of Midwifery. On this subject, the following letter from Dr. Hosack was laid before the Regents, as explanatory of the Doctor's views.

" New-York, Feb. 10, 1808.

" My dear Sir,

" I have good reason to believe that it is not your intention to procure the appointment of the Professorship of Surgery and Midwifery for me. I need not relate the circumstances which have led to this opinion, nor the direct information I have received. If so, I have only to remark, that I abandon the Institution in toto. I do not choose to be botanist or midwife to it, if unaccompanied with a more respectable appointment.

I cheerfully give up Materia Medica and Botany when you please, which afterwards can be arranged for Gillespie, Macneven, &c. But if Dr. Smith is appointed Professor of Anatomy and Surgery, De Witt to Chemistry, and I not made Professor of Surgery and Midwifery, I now request you, as President of the College, to communicate to the Regents my resignation of the appointment which they have bestowed on me.

I can spend my time more profitably than by teaching unproductive branches to the College of Physicians. I am very candid with you, Doctor, as I have ever been, but I must not be neglected.

I am, Sir, yours,

(Signed) D. HOSACK."

Dr. Nicholas Romayne,
President of the Medical Society, Albany.

" From the tenor of the preceding letter, Dr. Hosack himself had no prospect of succeeding in the College as a Professor of Botany or Materia Medica; and the Regents supposed him less qualified to teach Surgery and Midwifery than the gentlemen whom they appointed; in consequence of which, Dr. Hosack, by return of post, sent a letter of resignation to the Regents, which was accepted, and the Doctor was not afterwards seen in the College."

sity for the College of Physicians and Surgeons in the city of New York, to examine all candidates for the degree of Doctor of Medicine in said College, and to report to the Regents, from time to time, such candidates as shall be found qualified and worthy to receive the said degrees to the end that the Regents may in their discretion, grant diplomas conferring the same."

On the 27th the form of a Diploma was agreed upon.

On the 6th of March, the resignation of Dr. Romayne, as Professor of Materia Medica, was accepted.

Dr. Archibald Bruce, Professor of Mineralogy was appointed Professor of Mineralogy and Materia Medica.

In the Annual Report for the year (1809,) the number of Students is stated to be 73.

During the Session of 1810, a report was, as usual, received from the College. The Committee to whom it was referred, in the notice of the same state, among other things, that no provision is made for clinical instruction in surgery, to the students at the New-York Hospital, and they recommend that the Senatus Academicus be required to endeavour to make the necessary arrangements with the Governors of the New-York, Hospital, "that the students of the said College may be instructed in practical surgery by the Professor of Anatomy and Surgery."

The College had also expressed a desire that the Regents should regulate the fees of the Professors, so that they should not exceed an aggregate of forty dollars for the winter's courses and twenty dollars for the summer courses. The Committee deem this a totally inadequate compensation, and consider the fees established by the Senatus Academicus, of twenty dollars for the course on anatomy, and fifteen dollars for each of the other courses, as reasonable and proper, and they suggest that the fee of the Professor of Chemistry be increased.

Resolutions according with these suggestions were adopted. The Senatus Academicus was directed to confer with the Governors of the Hospital, and in case an arrangement could be made, the Professor of Anatomy and Surgery was directed to admit the students to attend his clinical practice and lectures free of expense. "And the said Senatus Academicus are requested to report to us their proceedings herein, to the end that we may be enabled to report the state of medical learning in the said College of Physicians and Surgeons, to the Legislature of this State, according to law."

The fee of the Professor of Chemistry was raised to twenty dollars.

The following appointments were made:—

Dr. B. De Witt Vice-President, vice Dr. Williamson, who declined.

Dr. Wm. J. McNeven, adjunct Professor of Chemistry.

Dr. Benjamin Prince and Dr. Joshua Secor, Censors in the room of Dr. John C. Osborn and Dr. Andrew Hunt, who declined serving.

On the 29th March, 1810, the Regents conferred the degree of Doctor of Medicine on—

William E. Burrel, Samuel Maxwell, and Samuel A. Walsh of New-York.

Thomas E. Steel and John D'Arcey of New-Jersey.

(*To be continued.*)

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *A System of Materia Medica and Pharmacy; including Translations of the Edinburgh London and Dublin Pharmacopoeias.* By JOHN MURRAY, M.D. Fellow of the Royal College of Physicians and Surgeons, of the Royal Society of Edinburgh, of the Geological Society of London, &c. Lecturer on Chemistry and Materia Medica and Pharmacy. From the fourth and last Edinburgh edition. With Notes and Additions by JOHN B. BECK, M.D. Professor of Materia Medica in the University of the State of New-York, Corresponding Member of the Medical Society of London, &c. &c. New-York, 8vo. pp. 580. 1828.

2. *The Western Journal of the Medical Sciences.* Edited by DANIEL DRAKE, M. D. late Professor of the Theory and Practice of Medicine in the Transylvania University, &c. Five Nos. for July, August, September, October, November. 1828.

In exchange.

3. *The Transylvania Journal of Medicine and the Associate Sciences*—Edited by JOHN ESTEN COOKE, M.D. Professor of the Theory and Practice of Medicine, and CHARLES WILKINS SHORT, M.D. Professor of Materia Medica and Medical Botany in Transylvania University. No. 4.

In exchange.

4. *A Manual of General Anatomy, containing a concise Description of the Elementary Tissues of the Human Body.* From the French of A. L. J. Bayle and H. Hollard. By J. D. GROSS, M.D. Philadelphia, 8vo. pp. 272. 1828.

5 *Litterarische annalen der gesammten Heilkunde heraus gegeben.* Von Dr. J. F. C. Hecker, Professor, &c. 2 Nos. for July and September, 1828.

In exchange.

NOTICES.

The Honorary Degree of Doctor in Medicine has recently been conferred by the Medical College of Castleton (Vermont) upon Dr. ELIAL T. Foote, of Chatauque, New-York.

A CARD.

Dr. Tessier feels desirous to avail himself of a corner of this Journal in order to apologise to his professional brethren for the delay which has occurred in the translation of Begin's Therapeutics, in consequence of Mess. Carey, Lea & Carey, of Philadelphia, having to this day retained in their possession a considerable portion of the manuscript, which Doctor T. has been thereby compelled to write over a second time; and he hopes that this circumstance, which several of his friends have attributed to a desire of injuring the credit of the work, will not subtract from the merit which is so universally and so justly allowed to exist in M. Begin's Treatise, nor from the favourable opinion which some might be disposed to entertain of the competency of the translator. The article, contained in the first part of this number, is chiefly intended as a specimen, both of the work in its English dress, and of Doctor Tessier's own contributions. It will be ready for delivery at Mr. Bliss's store, Broadway, in about three weeks.

New-York, Jan. 1829.

In the Press.—Charles S. Francis has in press a set of large Lithographic Plates, illustrative of surgical anatomy, from drawings taken from the subject under the eye of a professor; each plate on a folio sheet accompanied by descriptions.

This work will form a complete compendium of surgical anatomy.—Great care will be taken that the plates shall be executed in the best possible manner, and the publisher intends to put it at a very low price, that it may be within the reach of every medical student.

No. XXIX. will be published on the last day of March.

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ERRATUM.—Page 579, line 4 from top, *read* "long term of years."